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Ownership and Corporate Governance Interactions in European Mergers and Acquisitions

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Presentations and conferences

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Defrancq, C., Huyghebaert, N., Luypaert, M. (2017). Minority-investor expropriation and country-level corporate governance: Results from a study on corporate takeovers.

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General Introduction

This doctoral dissertation consists of three chapters on the impact of corporate governance on mergers and acquisitions (M&A). Each of these chapters can be read as a stand-alone article, but the dissertation as a whole provides a comprehensive discussion of the impact of corporate governance on mergers and acquisitions. Within the finance literature, corporate governance has been narrowly defined as the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment (Shleifer and Vishny, 1997). The advantage of this narrow definition is that it brings a focused framework to interpret the corporate reality. Within this doctoral dissertation, we focus on three levels of corporate governance. The first chapter deals with country-level governance legal structures and their mitigating impact on the potential expropriation behaviour of large blockholders. The second chapter provides insight in the ways in which the size and composition of the board of directors impacts M&A announcement returns. The third and final chapter of this dissertation focuses on family ownership and how it impacts M&A announcement returns.

The remainder of this introduction is organized as follows. First, we show how European M&A activity has grown over the last two decades and why research on M&A activity is important. Second, as the agency theory has been fruitful in explaining M&A failure, we inquire this agency conflict and provide an introduction to the *principal-principal* agency conflict of interest which is likely to be more important than the earlier theories concerning the *principal-agent* conflict in Continental Europe, characterised by a concentrated ownership structure. Third, we discuss the datasets within the chapters of this dissertation. Finally, we introduce the three chapters of this doctoral dissertation.

European M&A activity

Since the beginning of the 1990s, European merger and acquisition (M&A) activity has shown a tremendous growth. While previous M&A waves were especially important in the United States, the European takeover market reached about the same size as its US counterpart in the waves of the 1990s (fifth wave) and the mid-2000s (sixth wave). These recent waves were driven by deregulation, technological changes, globalisation,

and favourable financial market conditions. In Europe, the integration towards a single market further strengthened the consolidation process (Ilzkovitz *et al.*, 2007). The decision to acquire another company is typically motivated by the possible realization of synergies. Yet, a lot of expected synergies do not materialize afterwards (Trautwein, 1990). There is a huge amount of literature available that points to M&A failure. Pautler (2003) summarizes results from business consulting studies on US M&As between 1990 and 2000. Overall, these studies report failure rates within the range from 11% up to 75%. In the finance literature, a number of articles have also pointed out that a lot of M&As do not create shareholder value for the bidder in the long run. Agrawal *et al.* (1992) study cumulative abnormal returns (CARs) using monthly data for a sample of 937 mergers and 227 tender offers in the USA during 1955–1987. Their findings indicate that stockholders of acquiring firms lose on average 10% in the five years following deal completion. Gregory (1997) examines 452 large domestic UK transactions in 1984–1992 and documents average shareholder wealth losses within the range of 10 to 18 per cent between the announcement month and two years following deal completion. Craninckx and Huyghebaert (2011) developed measures of M&A failures: inferior long-term stock performance, inferior operating performance and target divestment. They show that M&A failure rates are 50%, both for listed as private targets.

An important stream of literature refers to Principal–Agent (PA) problems between managers and shareholders to explain these high failure rates. Instead of focusing on shareholder value creation, managers may have other incentives to engage in M&As. The reason is that growth generally increases managerial power and compensation (Jensen, 1986). Moreover, it may enable managers to diversify their wealth (including human capital) and improve job security when the target's cash flows are less than perfectly correlated with those of their own firm (Morck *et al.*, 1990). However, in order to protect the shareholders, effective corporate governance measures should prevent managers from undertaking these value-destroying M&As. Nonetheless, this dominant principal-agent view in the literature is based on the Anglo-Saxon corporate governance model that is characterized by highly dispersed ownership

and a huge managerial power. It is not sure – it is even unlikely – that these same conclusions would apply in a Continental European context, where ownership is typically much more concentrated (e.g., La Porta *et al.*, 1998). Large reference shareholders indeed monitor their firm's management more closely, thereby reducing ex ante the likelihood of non-value maximizing behaviour. Huyghebaert and Luypaert (2010) conclude that agency problems between managers and shareholders do not play an important role in the M&A decisions of a sample of Belgian companies. Nevertheless, also in Continental Europe many bad takeovers are observed. For a sample of European M&As during the period 1997–2006, Craninckx and Huyghebaert (2011) show that about 50% of European M&As fail to create value for the shareholders of the combined firm when considering a two-year post-M&A integration window. Furthermore, at the end of the second year following deal completion between 30% and 40% of transactions result in a decline in operating performance. Interestingly, the authors show that at the M&A announcement date stock market investors were able to already anticipate to some extent which transactions were more likely to fail later on. This finding raises serious questions about the functioning of corporate governance in a European context. While agency problems between managers and shareholders may induce value-destroying decisions, conflicts of interest between majority and minority investors (so-called *principal–principal* (PP) conflicts of interest) can lead to the expropriation of minority shareholders in settings characterized by (1) concentrated ownership, (2) poor institutional protection of minority investors, and (3) indicators of weak governance (Enriques and Volpin, 2007). Young *et al.* (2008) argue that such expropriation can be achieved by putting less-than-qualified friends or family members in important positions, by purchasing at too high prices or selling at too low prices to entities (partly) owned by the controlling shareholder, and by engaging in strategies for personal benefits instead of value creation (e.g., risk reduction through corporate diversification). We contend that these principal-principal conflicts of interest might at least in part explain why M&A failure rates are also substantial in countries outside the Anglo-Saxon corporate world.

For this research, we make use of a large M&A dataset where the deals are initiated by European acquirers. While the origins of each dataset are the same, some differences can be observed. The first chapter incorporates data from 2005 to 2013, excluding acquisitions from acquirers that are headquartered in the United Kingdom or Ireland, since these countries have a common-law legal tradition, in combination with a more dispersed ownership structure and families hold less voting shares in the companies they have founded, which would bring additional complexity to the main story of this research. Chapter two uses transactions in the timeframe 2007-2013, again leaving out M&A transactions initiated by acquirers from the UK or Ireland. As we don't have sufficient board-level data available for the years 2005-2006, we exclude these years from our analysis. The third chapter incorporates data from the years 2005-2013, including acquirers that are headquartered in the United Kingdom and Ireland.

In the first chapter of this dissertation, the interplay between ownership concentration and country-level corporate governance (shareholder rights, investor protection, and law enforcement) is explored and how this country-level corporate governance determines shareholder value examining a sample of 5,139 M&As initiated by listed firms in Europe. Specifically, we investigate whether stronger country-level investor protection mechanisms can mitigate the principal-principal conflict of interest between large blockholders and minority investors in the context of major strategic decisions, like mergers and acquisitions. Our results show that the fraction of voting rights controlled by the acquirer's largest ultimate shareholder significantly negatively affects acquirer shareholder abnormal returns surrounding the M&A announcement date. This finding therefore indicates that on average large acquirer blockholders are perceived to expropriate value from minority investors through M&As. However, we also find that this expropriation effect is only weakly mediated by better country-level corporate governance regulation.

In the second chapter of this dissertation, we empirically explore how the size and composition of acquirer boards are associated with acquirer shareholder abnormal returns at deal announcement for a sample of 2,230 M&As initiated by listed firms in

Continental Europe. We find that the number of directors on acquirer boards is not related to M&A announcement returns. Next, our results provide mixed conclusions as to a beneficial effect of board diversity on M&A value creation. While we find some weak evidence that gender and age diversity are positively associated with acquirer shareholder abnormal returns, we also note that the fraction of foreign directors has a significant negative effect, which appears to be driven by the domestic takeovers in our sample. Next, we show that the fraction of directors with multiple board appointments is positively associated with M&A value creation, particularly in cross-border and industry-diversifying deals. Also, boards with a larger fraction of independent directors are associated with higher M&A announcement returns. Finally, and in contrast to earlier studies on US M&As, CEO duality is only detrimental for shareholder value in industry-diversifying M&As by firms that are not controlled by an individual or a family shareholder. Within this chapter, we extend the current literature on the effects of board size and composition on firm performance by exploring its role in a Continental European M&A setting, which is characterized by powerful shareholders and poor investor protection. While prior research has examined the role of specific board construct variables, particularly in a US context, only few studies have investigated the role of board structure in its various aspects. Our mixed findings indicate a need for future research to better delineate the conditions under which board diversity is likely to be valuable for firms and their shareholders. The results of our study question the recent call from the public and regulation-shaping bodies for more diversity in board composition, at least in an M&A setting. In contrast, we do show that director networks and independence have important beneficial effects. Our study also identifies a number of board characteristics that stock market investors in Continental Europe may consider when forming investment portfolios

In the third chapter of this dissertation, we investigate how family ownership influences the industry-diversifying nature of M&As by listed companies in Continental Europe and the corresponding shareholder value effects at deal announcement. For a large sample of 3485 M&As during 2005–2013, we observe that acquirers having a family as the largest shareholder are less inclined to take over an unrelated target firm

than lone-founder and other types of non-family firms. However, as the size of the family ownership stake increases, family firms become more eager to follow an industry-diversifying M&A strategy. While industry-diversifying M&As are associated with lower abnormal returns for acquirer shareholders on average, we also observe that family ownership fully reverses this negative effect. We therefore conclude that those unrelated M&As, although still representing a conflict of interest with the family firm's minority investors, do not destroy shareholder value on average.

Chapter 1: Minority-investor expropriation and country-level corporate governance: Results from a study on corporate takeovers.

1.1 Introduction

Research has shown that listed firms in Europe, particularly in Continental Europe, often have a highly-concentrated ownership structure (see Faccio & Lang, 2002; Franks *et al.*, 2009; Martynova & Renneboog, 2010). While this concentrated ownership helps to curb the agency problems between managers and shareholders, it may also result in another conflict of interest. Indeed, dominant owners could abuse their power in the firm to pursue their own interests, to the detriment of the firm's minority investors, known as a *principal–principal conflict of interest*. Not surprisingly, the 'Europe 2020' plan of the European Commission (2010) has devoted a lot of time and efforts in trying to improve the business environment in the EU, thereby also proposing a modern and efficient company law and corporate governance (CG) framework for listed companies. As an example, as of 2006, listed firms in Europe became required to include a comprehensive CG statement in their annual report; it should cover the key elements of their CG structures and practices and is to be based on a 'comply or explain' principle (2006/46/EC). Although shareholders should have similar rights throughout the EU (2007/36/EC), the heterogeneity in CG legislation and practices across the various EU countries remains quite extensive (e.g., Aguilera & Jackson, 2010; Lubatkin *et al.*, 2005; Renders *et al.*, 2010). Whereas the United Kingdom and Ireland operate under a common-law legal system, characterized by the notion of fairness, countries in Continental Europe typically rely on a civil-law legal system that strongly emphasizes the predictability of the law (e.g., Enriques & Volpin, 2007; Johnson *et al.*, 2000). Even among civil-law countries, important differences are observable across the French, German, and Scandinavian legal families (see La Porta *et al.*, 1998). Each of these legal families indeed has its own applications of the concepts 'shareholder rights', 'investor protection', and 'law enforcement'.

In this article, we are particularly interested in how the conflict of interest that originates from a disproportionate distribution of power among a listed firm's various

shareholders affects that firm's minority investors. To that end, we investigate how the largest utlimate blockholder may expropriate value from stock market investors through mergers and acquisitions, which are often major strategic decisions for listed companies (Harris & Shimizu, 2004; Masulis *et al.*, 2012). While large family shareholders could use their power to induce their listed family firm to engage in industry-diversifying M&As in order to diversify the family wealth (see Aktas *et al.*, 2016; Defrancq *et al.*, 2016; Miller *et al.*, 2010), large institutional shareholders may consent to lower-value M&As if doing so is beneficial for their current and future business relations (see Chen *et al.*, 2007; Duggal & Millar, 1999). In a similar spirit, large corporate shareholders could abuse their power to tunnel profits and assets away from the listed firm's minority investors to other firms they control (e.g., Bae *et al.*, 2002; Faccio & Stolin, 2006; Johnson *et al.*, 2000). In addition, we wish to explore whether strong country-level corporate governance mechanisms can mediate those detrimental blockholder effects. The answer to this question may provide clear directions as to how public policy agencies could further fine-tune their future policies and actions to better protect minority investors against expropriation by large shareholders. As M&A transactions are typically unexpected corporate events with a potentially large impact on the combining companies, they provide a fertile ground for an event study that empirically investigates the influence of acquirer ownership concentration, country-level corporate governance, and their interaction on acquirer shareholder value. To that end, we rely on a large dataset of 5,139 M&As initiated by 1,648 listed acquirers in Europe between January 1, 2005 and April 30, 2013. First, we investigate whether blockholders who control a significant fraction of voting rights are associated with M&A abnormal returns for acquirer shareholders. In addition, we examine whether country-level CG characteristics that represent shareholder rights, investor protection, and law enforcement have an influence on M&A value creation for acquirer shareholders. Finally, we analyse whether strong country-level minority-investor protection has a mitigating effect on the value-expropriation behaviour by large blockholders.

Only a few studies have explored the role of major shareholders in M&A transactions. In general, this research has found a significant negative effect of the stake controlled by the acquirer's largest ultimate shareholder on acquirer M&A

announcement returns. This finding is consistent with the view that firms with dominant owners may engage in M&As that do not necessarily maximize shareholder value as the voting power of their largest shareholder increases. Bigelli and Mengoli (2004), who study 280 takeovers by Italian listed firms in the period from 1989 to 1996, find a significant negative effect of acquirer ownership concentration on M&A announcement returns, thus indicating that acquirers with a higher likelihood of shareholder entrenchment engage in M&As that are less valuable for the firm's minority investors. Ben-Amar and André (2006) investigate 327 Canadian M&As during 1998–2002 and detect a non-linear relation between the stake controlled by the acquirer's largest ultimate blockholder and acquirer shareholder abnormal returns at M&A announcement, suggesting that publicly listed firms make sub-optimal investment decisions as the ownership stake of their largest shareholder increases. Bhaumik and Selarka (2012) investigate 123 M&As in India between 1995 and 2004, demonstrating that acquirers with a concentrated ownership structure experience lower three-year post-M&A performance, as measured by their earnings before interest, taxes, and depreciation. This result again suggests that acquirer ownership concentration facilitates the expropriation of minority investors by controlling blockholders, particularly in a context of weak country-level corporate governance.

As far as the relation between country-level corporate governance and firm value is concerned, La Porta *et al.* (2002) and Maury (2006) identify a positive association. La Porta *et al.* (2002) investigate 539 large firms from 27 wealthy countries in the year 1995, and find evidence of higher firm valuations in countries with better minority investor protection. They therefore argue that investors are more willing to finance firms in countries that are more protective of minority investors. The idea is that those investors in countries with better corporate governance can be sure that more of their firm's profits will flow back to them in the form of dividends, which allows them to value corporate assets more highly. Maury (2006) argues that blockholder ownership is more beneficial to firm value in legal environments where minority shareholders can better protect themselves against blockholder expropriation. His argumentation is based on the finding that, for a sample of 1,672 non-financial firms in Western Europe during the year 1998, family-controlled firms, which comprise a subset of blockholder-

controlled firms, only have a significant positive effect on Tobin's Q in countries with strong investor protection (antidirector rights above the median score). Hillier *et al.* (2011) investigate the influence of country-level legal protection, control mechanisms, and financial systems on firm-level investment in R&D, for a sample of firms from 9 EU countries, Japan and the USA. The authors show that firm-level R&D investment is less sensitive to internal cash flow generation in countries with stronger corporate governance, adding to the argument that country-level corporate governance is a key determinant of corporate investments and growth.

The literature on the influence of country-level corporate governance on M&As has shown that the degree of investor protection in the acquirer country has a significant positive impact on M&A announcement returns for acquirer shareholders. Bris and Cabolis (2008) investigate the effects of acquirer country-level investor protection for a sample of 506 takeovers in 39 countries between 1989 and 2002 and find that better (above median) investor protection in the acquirer country on average results in higher acquirer M&A announcement returns. Delving somewhat deeper into this topic, Martynova and Renneboog (2008) explore the spillover effects of corporate governance practices between acquirer and target firms in a sample of 737 cross-border M&As in Europe during 1993–2008. To that end, they conduct interviews with 150 corporate lawyers from 32 European countries. They also investigate the impact of country-level corporate governance regulation on the acquirer CAR for this sample of cross-border M&As. For the M&As where the acquirer is from a country with above median shareholder rights and the target comes from a country with below median shareholder rights, Martynova and Renneboog find a significant positive effect of the difference in shareholder rights between acquirer and target firms on acquirer announcement returns. As such, the authors provide evidence that the takeovers of firms with a poor shareholder orientation by firms with a strong shareholder orientation generate abnormal returns for the acquirers through the imposition of better corporate governance practices on the target firm.

Our research contributes to the current literature by investigating the role of large shareholders in M&As and the potentially mitigating impact of country-level corporate governance regulation on the expropriation behaviour by large blockholders in

European M&A transactions. We are, to the best of our knowledge, the first to also empirically investigate this interaction effect between ownership concentration and measures of country-level corporate governance on M&A announcement returns. To that end, we rely on an extensive deal sample, spanning 5,139 transactions initiated by listed acquirers in Europe between 2005 and 2013. Our empirical results point at a significant negative effect of ownership concentration on acquirer M&A announcement returns. Further, we find evidence of a significant positive impact of two sub-indices of minority investor protection on acquirer M&A announcement returns. The first sub-index reflects minority-investor appointment rights (i.e. including minority-shareholder representation on the board, rules allowing voting caps, and a ban on dual-class shares). The second sub-index covers minority-investor decision rights (i.e. introduction of supermajority approval for major corporate decisions, such that minorities with a blocking minority are able to impede corporate policies that could harm their interests). However, we find only weak evidence that country-level minority-investor protection mitigates the expropriation behaviour by large blockholders. Empirical evidence from a subsample analysis shows that there is a strong negative effect of large blockholders for industry-diversifying M&As, adding to the argument that industry-diversifying takeovers may be used by blockholders to expropriate value from minority investors. Consequently, they send the stock price lower upon the announcement of an industry-diversifying transaction. We also find evidence that the interaction effect has a significant positive impact on acquirer announcement returns in diversifying M&As, showing the mitigating effect of strong country-level corporate governance on blockholder expropriation incentives manifesting in diversifying M&As.

The remainder of this paper is organized as follows. First, we present an overview of the relevant literature and develop our hypotheses. We thereafter introduce the sample and variable measurements, and report and discuss the results from our empirical analyses. Finally, the last section of the paper offers our conclusions and launches areas for future research.

1.2 Literature Review and Hypothesis Development

In this section, we first review the literature on agency theory and on how concentrated ownership may induce a specific conflict of interest between a listed firm's controlling shareholder and its minority investors. Next, we present what the literature so far has argued and found as regards the role of country-level corporate governance. In addition, we develop our own hypotheses as to the impact of large blockholders, country-level corporate governance, and their interaction on acquirer shareholder abnormal returns at the deal announcement date. As minority investors likely factor in whether and how the legal environment will protect them against any expropriation by a company's dominant owners, it can be expected that stock market investors' reaction to an M&A announcement will reflect the effects of the offered investor protection on this PP conflict of interest.

1.2.1 Ownership

Jensen and Meckling introduced the agency theory in 1976 and until recently, most of the attention in the literature has gone to the principal–agent (PA) conflict of interest that is driven by a separation of ownership and control. When firm ownership is widely dispersed, firm management may have the power as well as the incentives to pursue its own interests (e.g., Enriques & Volpin, 2007; Morck *et al.*, 2005). However, when a major shareholder controls a large fraction of a listed firm's voting rights, it may be able to curb such managerial entrenchment. At the same time, a new conflict of interest may arise, between this dominant owner and the firm's minority investors. As argued by Morck *et al.* (2005), an unequal balance in voting rights may create the conditions for a new agency problem, as the interests of the firm's controlling and minority shareholders may no longer be aligned. In a similar spirit, Young *et al.* (2008) point out that a principal–principal (PP) conflict of interest may arise when control is not equally shared among a firm's various shareholders. Such PP conflicts of interest may result in the expropriation of minority investors by the appropriation of firm value by the firm's dominant owner or even by the destruction of overall firm value (see also Shleifer & Vishny, 1997). In this respect, McConnell and Servaes (1990) find that corporate value (Tobin's Q) tends to decline with ownership concentration as ownership

becomes too concentrated (the turning point equals 50% for listed firms in the year 1976 and 40% for listed firms in the year 1986). Likewise, Anderson and Reeb (2003) and Maury (2006) conclude that Tobin's Q gradually decreases when ownership concentration grows too large, that is above 30%. The authors explain this outcome by a changing incentive structure as the firm's largest shareholder becomes too powerful, away from firm-value maximization.

This changing incentive structure has also been noticed in prior literature investigating the effects of ownership concentration on M&A value creation for acquirer shareholders. In companies that are ultimately controlled by an individual or a family, the incentive to preserve control and/or protect the family wealth may overtake the incentive to maximize the firm's stock market valuation as blockholder ownership increases. Individuals or families likely have a substantial fraction of their wealth invested in their listed company. Hence, these owners often adhere to a wealth-preservation strategy in order to transfer their business to the next generation (Aktas *et al.*, 2016; Defrancq *et al.*, 2016). Alternatively, Johnson *et al.* (2000) argue that these large blockholders may use M&As to siphon off resources from their listed firm to increase their personal wealth. Bae *et al.* (2002) provide empirical evidence, based on a sample of 107 takeovers of Korean listed firms in the time frame between 1981 and 1997, that large Korean business groups have used acquisitions as a tunnelling instrument, to transfer wealth from the listed firm's minority shareholders to its controlling shareholder. While minority investors in these acquirers on average lose, the controlling shareholder of that firm on average benefits because of the value enhancement of other firms in the group. Institutional investors are likely to rely on the firm's management to take strategic decisions (Daily *et al.*, 2003; Graves & Waddock, 1990). Hence, they may consent to lower-value deals if doing so is beneficial for their current and future business relations (Chen *et al.*, 2007; Duggal and Miller, 1999); e.g. insurance companies may have business relations with firms whose stock they also own, and as such prevent them from being active corporate monitors (Duggal and Miller, 1999). In line with those arguments, Craninckx and Huyghebaert (2015) find that institutional ownership is significantly negatively associated with the acquirer CAR for a sample of 342 intra-European takeovers of listed target firms announced between

1997 and 2007; also, they show that large family owners as well as large institutional owners tend to put their firm in a weaker negotiation position when it comes to dividing M&A value creation, as the fraction of total M&A gains realized by acquirer shareholders is significantly smaller for acquirers with such a dominant owner. Bigelli and Mengoli (2004), who study 280 acquisitions by Italian listed firms in the period from 1989 to 1996, find a significant negative effect of ownership concentration on M&A announcement returns, meaning that acquirers with a higher likelihood of shareholder entrenchment experience lower M&A announcement returns. In subsequent analyses, the authors find a non-linear effect, claiming that as the stake of the controlling shareholder grows, the likelihood of entrenchment by the firm's controlling blockholder is larger.

Based upon the above review of the literature, we expect that large shareholders may use their power in the firm to pursue other goals than shareholder value maximization. The positive effects of having a major blockholder in controlling managerial agency problems thus taper off as this controlling shareholder's voting-rights stake in the firm grows. So, as the acquirer's largest ultimate shareholder controls a larger faction of voting rights, a conflict of interest with the firm's minority investors may engender. We therefore put forward:

> *Hypothesis 1: The ownership stake of the acquirer's largest ultimate shareholder is negatively associated with acquirer shareholder abnormal returns at the deal announcement date.*

1.2.2 Country-level corporate governance

Corporate governance is the set of mechanisms through which outside investors protect themselves against expropriation by both managers and major shareholders (La Porta *et al.*, 2000). As such, corporate governance deals with both principal–agent and principal–principal conflicts of interest. Martynova and Renneboog (2010) reflect on the quality of national laws aiming at protecting stock market investors from being expropriated by a firm's management (hereafter called '*Shareholder rights*') as well as large shareholders (hereafter called '*Minority investor protection*'). Moreover, the authors factor in that the impact of country-level CG legislation depends on the country's quality of law enforcement (hereafter called '*Rule of law*'). *Shareholder*

rights represent the rights and attributes that measure a shareholder's ability to curb managerial opportunistic behaviour and capture the extent to which national regulation is shareholder oriented (e.g., Do shareholders have the legal provisions that provide them with effective power to appoint and dismiss the board of directors and to control major corporate decisions, including M&As?). *Minority investor protection* specifically relates to the regulatory provisions that increase the relative power of minority investors in the presence of a strong dominant owner (e.g., Do minority investors have board representation?; Is there a supermajority requirement for approval of major corporate decisions in order to induce a compromise between the firm's various shareholders?; Are there minority claims that grant minority investors the right to exit from the company on fair terms in case they fear their rights are expropriated?; Do companies have to adhere to the one-share-one-vote principle?; Do companies have to be transparent about their ownership structure and are blockholders with a sufficiently large stake required to make this public?). Finally, the *Rule of law* refers to the influence and authority of law within society, particularly as a constraint upon agents' behaviour (Kaufman *et al.*, 2010).[1]

Overall, stock market investors should be able to rely upon the prevailing CG regulation and on the application of the law within a certain jurisdiction. Also, the legal environment and how the laws are enforced shape the business and contract environment in which firms operate. Listed firms in countries with strong country-level CG laws tend to experience higher stock market valuations, which can be explained by the reduced risk of agency conflicts (both PA and PP). La Porta *et al.* (1998) examine the legal rules covering the protection of corporate shareholders and creditors, the origin of these rules, and the quality of their enforcement in 49 countries in the 1990s. They

[1] According to La Porta *et al.* (2000), common-law countries have the strongest protection of minority investors, whereas French civil-law countries have the weakest. German and Scandinavian civil-law countries fall in between. The authors also find significant differences across countries in terms of quality of law enforcement, as measured by the efficiency of the judiciary, corruption, and the quality of accounting standards. Unlike legal rules, which do not appear to depend upon the level of economic development, the quality of law enforcement is higher in German and Scandinavian civil-law countries, as compared to French civil-law countries. Particularly, the richer Scandinavian and German legal origin countries receive the highest scores on the efficiency of the judicial system. Of the four legal traditions, the French legal origin countries have the worst quality of law enforcement.

find that investor protection at the country level is positively correlated with the size of securities markets and thus the ability of companies to raise finance and stock market prices. Also, country-level investor protection is negatively correlated with ownership concentration. These findings support the idea that legal systems matter for corporate governance and that firms (have to) adapt to the limitations of the legal systems under which they operate. The authors reach a similar conclusion in their 2002 paper, using a sample of 539 large firms from 27 wealthy economies in the year 1995. So, La Porta *et al.* (2002) argue that investors are more willing to finance firms and that financial markets are both broader and more valuable in countries that are more protective of minority investors and where the laws are better enforced. This finding is also confirmed by Claessens and Yurtoglu (2013), who examine country-level governance indicators, macroeconomic and financial variables for 72 countries over the period 2000-2010. Specifically, they show that firms operating under stronger country-level governance rules have better access to financing, a lower cost of capital, and a better performance. For a sample of 495 firms in 25 emerging markets, Klapper and Love (2004) find that the overall level of firm-level corporate governance is significantly positively associated with three proxies of country-level investor protection. Firm-level governance is inferred from the results of a survey, covering seven broad firm-level CG categories, filled out by Credit Lyonnais analysts who provide research coverage for the sample firms. The three country-level CG variables include Judicial Efficiency (International Country Risk Guide, 2000), Antidirector Rights (La Porta *et al.*, 1998), and Legality (Berkowitz *et al.*, 2003). From their findings, the authors infer that firms have only limited flexibility to steer their CG profile, which implies that an increase in average firm-level CG quality can be achieved by improving the country-level judicial efficiency, improving the country's antidirector rights. Alternatively, the firms might list on a US stock exchange, known for their large analyst coverage and transparency, which tends to increase the CG quality of individual firms as well. Doidge *et al.* (2007) further add to the argument that country-level characteristics play an important role in a firm's overall governance. They find that country-level characteristics explain much more of the variance in governance ratings than observable firm characteristics. Moreover, they find that country-specific characteristics related to minority investor

protection and the level of economic and financial development influence a firm's costs and benefits from implementing measures to improve its governance and transparency. The authors base their findings on three firm-level CG ratings (CLSA, S&P Transparency and disclosure, and the FTSE ISS) for up to 1,217 firms from 38 countries, covering the period 1994–2001.

In the case of M&As, which are transactions that might be associated with PA as well as PP conflicts of interest, country-level corporate governance mechanisms may mitigate the number of value-reducing acquisitions and increase the M&A returns for acquirers operating in strong CG nations. When M&As are announced, minority investors factor in that acquirers from strong governance countries will negotiate and implement transactions that are good for overall shareholder wealth, not just for the firm's management or controlling shareholder. Hence, the presence of strong country-level CG rules can build trust among stock market investors, who now anticipate that they will not be expropriated. As the uncertainty surrounding M&A transactions has become smaller, the risks involved in owning acquirer stock will be lower as well. Ultimately, this will translate into a higher abnormal return for acquirer shareholders upon the announcement of an M&A. The few studies that investigate the impact of country-level corporate governance on M&As all focus on the spillover effects in cross-border transactions. Rossi and Volpin (2004) find for a sample of 4,007 M&As between 1990 and 1999 that the volume of M&A activity is significantly larger in countries with better accounting standards (i.e. quality of disclosures) and stronger shareholder protection (i.e. and index capturing the effective rights of minority investors with respect to managers and directors). Bris and Cabolis (2008) study the effects of changes in investor protection and accounting standards on merger premiums by investigating 506 cross-border acquisitions from 25 acquirer countries and 39 target countries. They find that better accounting standards and shareholder protection in the acquirer country are associated with higher M&A premiums paid above target market value in cross-border M&As relative to matched purely domestic transactions. This outcome therefore suggests a positive valuation effect for target shareholders from improving their legal protection. Martynova and Renneboog (2008) investigate 737 cross-border M&As in Europe, relying on their index structured around country-level shareholder rights,

minority investor protection, creditor rights, and law enforcement. They infer that part of the total synergy value in M&As by acquirers from countries with a strong shareholder orientation arises from the improvement in the governance of the target firms, i.e. a positive spillover effect.

In sum, as the rights of a firm's minority investors are better protected in countries with stronger country-level corporate governance regulation and better law enforcement, it can be expected that more of an investment's profits will flow back to a firm's investors, as opposed to being expropriated by that firm's controlling shareholder. Therefore, when minority investors factor in the acquirer-country shareholder rights, alongside its minority investor protection and rule of law, acquirer shareholder abnormal returns from announcing M&As likely are higher in countries with stronger country-level corporate governance. The above arguments result in the following hypothesis:

> *Hypothesis 2: Country-level corporate governance is positively associated with acquirer shareholder abnormal returns at the deal announcement date.*

Interaction between ownership and country-level corporate governance

Concentrated ownership structures may give rise to a PP conflict of interest as large blockholders have the opportunity to expropriate value from a firm's minority investors. Yet, strong shareholder rights, minority investor protection and the rule of law can prevent or at least mitigate possible expropriation behaviour by large blockholders (e.g., La Porta *et al.*, 2000; Young *et al.*, 2008), specifically in the case of M&A transactions that have a potentially large effect on shareholder value (Schmidt, 2015). Blockholders having their own agenda may be unable to pursue a strategy that maximizes private benefits of control when this is detrimental to the wealth of minority investors and when formal limits to curb the blockholder's power are installed (e.g., voting caps that limit the power of a large blockholder, the barring of issuing shares with no or multiple voting rights, the requirement for supermajority approval (including minority investors) for major corporate decisions, the installation of a low fraction of votes needed to call for an extraordinary meeting, the mandatory disclosure of large ownership stakes). The more barriers installed at the country level to protect the rights of minority investors, the higher the likelihood that large shareholders will not be able to expropriate value

from minority investors by following their own agenda. To the contrary, when there are few country-level barriers to expropriation, blockholders are likely to be able to expropriate value from minority investors by pursuing their own agenda. As a result, the firm's operations and ultimately its performance is contingent upon its ownership structure and country-level corporate governance. To a large extent, potential shareholders finance firms because their rights are protected by the law (La Porta *et al.*, 2000). In the presence of major shareholders controlling the corporate landscape, minority investors have to rely on the country-level regulatory provisions (minority investor protection) that increase their relative power vis-à-vis dominant owners. This interplay between major shareholders and country-level minority investor protection likely influences a firm's performance and M&A announcement returns. While prior research has argued that both ownership and country-level corporate governance have an influence on a firm's performance and M&A decisions, there is no direct research on this relation. Indeed, only some indirect research on this topic exists. As an example, Maury (2006) finds that ownership only has a significant positive effect on Tobin's Q in countries with strong investor protection (antidirector rights above the median score), while Hillier *et al.* (2011) show that firm-level R&D investment is less sensitive to internal cash flow generation in countries with stronger corporate governance. Yet, there is reason to investigate this potential interaction effect between blockholders and country-level governance. If a large shareholder is able to pursue its own agenda and heavily influence the strategic direction of a listed company, this may come at a cost for the firm's minority investors. Indeed, when firm-value maximization is no longer the most important corporate goal, the firm's stock price will be affected once those non-value-maximizing deals are being announced. The only hope for minority investors therefore rests in the country's laws and the enforcement of those laws within the corresponding jurisdiction. As such, it is of utmost importance for minority investors that the country-level corporate governance regime can mitigate any expropriation incentives on the part of the firm's blockholders.

In the presence of a large blockholder, minority investors may be able to rely on a good institutional context in order to avoid being expropriated by the firm's dominant

owner. As such, we expect a mitigating impact of strong country-level corporate governance on the blockholder expropriation effect.

> *Hypothesis 3: The interaction term between the ownership stake of the acquirer's largest ultimate shareholder and country-level regulation that protects minority investors is positively associated with acquirer shareholder abnormal returns at deal announcement.*

> *Hypothesis 4: The interaction term between the ownership stake of the acquirer's largest ultimate shareholder and country-level rule of law is positively associated with acquirer shareholder abnormal returns at deal announcement.*

1.3 Variables and sample

1.3.1 Sample

Our initial sample includes all M&As initiated by a European listed acquirer, announced and completed between January 1, 2005 and April 30, 2013, and covered by the Zephyr database of Bureau Van Dijk.[2] To be retained in the sample, the acquiring firm has to be registered in one of the 28 countries of the European Union.[3] This results in an initial sample of 17,786 M&A transactions. Next, the acquiring firm needs to obtain control over the target firm by growing its invested stake from a zero or minority stake to a post-deal ownership stake exceeding 50%. This reduces the sample to 14,278 observations. Furthermore, firms active in the Financial Services Industry (US SIC code 6) are removed from the sample since those firms are subject to specific regulations and since their financial statements are often compiled under different accounting standards (2,774 deals). Finally, we only retain transactions for which the

[2] The Zephyr database is commercialized by Bureau van Dijk and contains information on more than one million transactions worldwide, with pan-European deals dating back to 1997 and North American deals included as of 2001. There is no minimum deal value in order for an M&A to be included in the database. Zephyr provides information on several firm (e.g., name, industry, country, etc.) and deal (e.g., deal status, hostile bid, contested bid, etc.) characteristics. Furthermore, it can be linked easily to the Amadeus database (also Bureau Van Dijk), containing the annual accounts of European companies. Zephyr has, as compared to Thomson Financial and Mergerstat, a larger coverage of European transactions. We start data collection in 2005 since the ownership data in the Amadeus database are only present on a fragmented basis prior to 2005. Moreover, listed firms in Europe all shifted to the IFRS accounting standards as of 2005.

[3] The Amadeus database of Bureau van Dijk (BVD) contains the annual accounts of over 18 million listed and non-listed firms in Europe, without specifying size requirements for the companies to be included in the database. The database combines the data from over 30 specialist regional information providers and presents all accounting items in a uniform format across the various European countries. The Datastream database of Thomson Financial is the world's largest financial database including, among other things, financial information on listed companies.

accounting, ownership, and stock price data are available in the Amadeus and Datastream databases. The above sample selection criteria result in a final sample of 5,139 M&As, initiated by 1,648 distinctive acquirers.

Table 1.1 displays the yearly, industry, and geographical distribution for the full sample, as well as for the subsamples of industry-diversifying versus industry-related M&As. A deal is categorised as *industry-diversifying* if none of the acquirer's three-digit US SIC industries equals one of the target firm's three-digit US SIC industries. This is the case for 1,914 transactions (37.2% of the sample). While a non-trivial number of transactions took place in each sample year, most deals occurred in the year 2007. About half of the acquiring companies are active in manufacturing (22.9%) and in personal and business services (24.0%). The geographical distribution of the acquirers is highly dispersed, with a considerable fraction of acquirers domiciled in the United Kingdom (29.8%), followed by France (17.3%), Sweden (12.1%), and Germany (9.6%).

Table 1.1: Time, industry and geographical distribution of the sample

Table 1.1 displays the absolute and percentage distribution of the year of M&A announcement, acquirer industry, and acquirer country for the full sample (Panel A), and for the subsamples of industry-diversifying versus industry-related M&As (Panel B).

	Panel A: Full Sample		Panel B: Industry-diversifying versus industry-related M&As			
			Industry-diversifying M&As		Industry-related M&As	
	N	Col%	N	Row%	N	Row%
Year of announcement						
2005	593	11.54%	207	34.91%	386	65.09%
2006	716	13.93%	255	35.61%	461	64.39%
2007	859	16.72%	306	35.62%	553	64.38%
2008	741	14.42%	298	40.22%	443	59.78%
2009	412	8.02%	163	39.56%	249	60.44%
2010	644	12.53%	252	39.13%	392	60.87%
2011	601	11.69%	211	35.11%	390	64.89%
2012	274	5.33%	105	38.32%	169	61.68%
2013	299	5.82%	117	39.13%	182	60.87%
Acquirer industry						
SIC 0: Agriculture, Forestry Fishing	58	1.13%	31	53.45%	27	46.55%
SIC 1: Mining	295	5.74%	136	46.10%	159	53.90%
SIC 2: Food	657	12.78%	265	40.33%	392	59.67%
SIC 3: Manufacturing	1,178	22.92%	586	49.75%	592	50.25%
SIC 4: Transportation	488	9.50%	188	38.52%	300	61.48%
SIC 5: Wholesale	526	10.24%	251	47.72%	275	52.28%
SIC 7: Personal and business services	1,232	23.97%	232	18.83%	1000	81.17%
SIC 8: Health, legal and social services	695	13.52%	223	32.09%	472	67.91%
SIC 9: Public Administration	10	0.19%	2	20.00%	8	80.00%
Acquirer country						
AT: Austria	64	1.25%	26	40.63%	38	59.38%
BE: Belgium	131	2.55%	42	32.06%	89	67.94%
BG: Bulgaria	11	0.21%	7	63.64%	4	36.36%
CZ: Czech Republic	6	0.12%	2	33.33%	4	66.67%
DE: Germany	491	9.55%	182	37.07%	309	62.93%
DK: Denmark	78	1.52%	21	26.92%	57	73.08%
EE: Estonia	6	0.12%	4	66.67%	2	33.33%
ES: Spain	163	3.17%	46	28.22%	117	71.78%
FI: Finland	298	5.80%	100	33.56%	198	66.44%
FR: France	887	17.26%	314	35.40%	573	64.60%
GB: Great Britain	1,533	29.83%	633	41.29%	900	58.71%
GR: Greece	1	0.02%	1	100.00%	0	0.00%
HU: Hungary	1	0.02%	1	100.00%	0	0.00%
IE: Ireland	121	2.35%	50	41.32%	71	58.68%
IT: Italy	168	3.27%	62	36.90%	106	63.10%
LT: Lithuania	6	0.12%	4	66.67%	2	33.33%
LU: Luxembourg	6	0.12%	2	33.33%	4	66.67%
LV: Latvia	3	0.06%	0	0.00%	3	100.00%
NL: Netherlands	300	5.84%	75	25.00%	225	75.00%
PL: Poland	183	3.56%	92	50.27%	91	49.73%
PT: Portugal	32	0.62%	12	37.50%	20	62.50%
RO: Romania	5	0.10%	4	80.00%	1	20.00%
SE: Sweden	621	12.08%	221	35.59%	400	64.41%
SI: Slovenia	21	0.41%	13	61.90%	8	38.10%
SK: Slovakia	3	0.06%	0	0.00%	3	100.00%
Total	**5,139**	**100.00%**	**1,914**	**37.24%**	**3,225**	**62.76%**

1.3.2 Variable measurement

In this section, we present our variables of interest. We start by introducing our measurement of the dependent variable. To capture acquirer shareholder abnormal returns upon deal announcement, we rely upon the event study methodology. Next, we introduce ownership concentration and the country-level corporate governance variables that are used in our study. Finally, we elaborate on the control variables.

To evaluate the M&A value creation from the point of view of acquirer shareholders, we make use of the event study methodology. Research in corporate finance typically posits that stock market investors impound the economic gains from synergies and/or a change in corporate control in the stock price of the combining companies at deal notification. The most important advantage of the event study methodology is that it is forward-looking, implicitly accounting for the present value of all future M&A gains. Also, it can be manipulated less easily by managers than accounting-based performance metrics and it is unrelated to the quality of deal implementation, i.e. post-M&A integration. To capture the perceived value creation in each takeover, we calculate acquirer abnormal returns surrounding the M&A announcement date.[4] Acquirer abnormal returns are computed as the difference between realized returns and expected returns. Expected returns are obtained from the market model, which is estimated over a clean period [-250,-51] relative to the event date (day 0):

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{jt} is the realized return on the stock of company *j* on day *t*, R_{mt} is the realized return on the MSCI Europe index on day *t*, α_j is the intercept and β_j is a measure of firm *j*'s systematic risk

The abnormal returns are summed over the event window $[T_1, T_2]$ to produce a cumulative abnormal return (*CAR*). We use the [-1,+1] window in our main test, but also work with other event windows to account for a potential stock price run-up before

[4] We do not have any information on M&A transactions that were proposed to but disapproved by the board, as data on those proposed M&As is not publicly disclosed. Hence, in our dataset, we cannot observe the strongest expression of the monitoring function, i.e. the disapproval of takeovers perceived to destroy shareholder value.

deal notification (e.g., Craninckx & Huyghebaert, 2011; Martynova & Renneboog, 2011). We examine the statistical significance of the acquirer *CAR* by means of the test statistic developed by Dodd and Warner (1983). For each security *i*, the standardized abnormal return on day *t* (SAR_{it}) is computed by dividing the abnormal return on that date (AR_{it}) by its standard deviation (s_{it}). The standardized *CAR* over the event window $[T_1, T_2]$ is then calculated as follows:

$$SCAR_i = \sum_{t=T_1}^{T_2} SAR_{it} \frac{1}{\sqrt{T_2 - T_1 + 1}}$$

For a sample of *N* events, the test statistic (t) that examines the null hypothesis of a zero cumulative abnormal return is obtained as:

$$t = \sqrt{N} \frac{1}{N} \sum_{i=1}^{N} SCAR_i$$

To measure an acquirer's ownership structure, we consider who holds its direct and indirect voting rights (control rights), as recorded in the Amadeus database. BVD collects ownership data, based on voting shares, from official bodies in charge of collecting this information, associated information providers, or from the firms themselves (Bureau van Dijk, 2008). The Amadeus ownership data were previously used by Faccio *et al.* (2011) and Franks *et al.* (2012), among others. While prior research has relied mostly on a static ownership concept, assuming stable ownership stakes during two to three years (e.g., Faccio & Lang, 2002; Lin *et al.*, 2011; Maury, 2006), we collected each acquirer's actual voting-rights data at the M&A announcement date. In line with the literature, we only consider shareholders controlling at least 5% of voting rights to identify an acquirer's blockholders (see also Faccio *et al.*, 2001; Masulis *et al.*, 2007). *BLOCK* is defined as the fraction of voting rights controlled by the firm's largest ultimate shareholder, both directly and indirectly. For the acquirers on which Amadeus only reports direct ownership information, we assume that the corresponding owners hold no indirect voting rights in the listed firm.

To examine the influence of country-level corporate governance on M&A value creation for acquirer shareholders, we make use of a number of variables. Following the seminal work of La Porta *et al.* (1998), the academic literature has developed several

indices that capture the differences in corporate governance among countries. Also, some index adjustments and updates have been published, both in the cross section (by adding more countries) and over time (yearly updates of those country-level CG indicators). For this research project, we start from the study by Martynova and Renneboog (2010), who set up a corporate governance structural index that captures the conflicts of interest among several types of stakeholders. *SHAREHOLDER RIGHTS PROTECTION* captures the agency conflict between shareholders and managers; *MINORITY SHAREHOLDERS PROTECTION* captures the agency conflict between large blockholders and minority investors; *LAW ENFORCEMENT* is a measure of how well the law is applied in a specific country. In addition, we will disentangle *MINORITY SHAREHOLDERS PROTECTION* into its four subcomponents originally relied upon by Martynova and Renneboog (2010). The authors structure their minority investor protection index around three rights and one strategy, i.e. appointment rights, decision rights, affiliation rights, and a trusteeship strategy. *MINORITY APPOINTMENT RIGHTS* give minority investors a say in the appointment of the management and the internal governance system. Those appointment rights include minority-investor representation on the board, rules that allow to apply voting caps, and a ban on dual-class shares (non-voting and multiple-votes shares). *MINORITY DECISION RIGHTS* enable minority investors to participate in the governance of their firm, for example by introducing the need of a supermajority approval for major corporate decisions. Alternatively, regulations that grant shareholders the right to call for an extraordinary shareholders' meeting may also strengthen minority investors' opportunities to make sure that their interests are looked after. The lower the fraction of share capital required to call for an extraordinary meeting, the easier a firm's minority investors can pass on their concerns to the company's management. *MINORITY TRUSTEESHIP RIGHTS* captures the extent to which the board of directors serves as a trustee for minority investors, i.e. the directors are independent from the firm's controlling shareholder. Martynova and Renneboog (2010) argue that some jurisdictions, like The Netherlands, restrict shareholders' election power such that the influence of large blockholders on the decision-making process of the board is limited. As such, potential opportunistic behaviour by a large blockholder is strongly reduced, which tends to increase the

protection of the firm's stock market investors. Finally, the *MINORITY AFFILIATION RIGHTS* enhance the power of minority investors by providing them with entry and exit rights on fair terms. Most of the regulatory provisions in this category are part of takeover regulation. The mandatory bid rule requires a large blockholder to make a tender offer to all the shareholders once it has accumulated a certain fraction of the company's shares. Such a bid rule protects minority investors by providing them with the opportunity to exit at a fair price. The equal treatment principle requires controlling shareholders, management and other constituencies to equally treat all shareholders within each individual class of shares.

Next to the structure within the country-level corporate governance framework that is borrowed from Martynova and Renneboog (2010), also the actual measures *SHAREHOLDER RIGHTS PROTECTION* and *MINORITY SHAREHOLDERS PROTECTION* from the study by Martynova and Renneboog (2010) are taken as a starting point. However, their dataset only spans the period from 1990 to 2005 while our deal dataset covers the period 2005–2013. Therefore, we identify similar yet more recent governance measures within the Worldwide Governance Indicators, to see whether our results are robust. This WGI dataset is developed by Kaufman *et al.* (2010) with the support of the World Bank and spans from 1996–2014, hence covering our entire sample period. Yet, we opt to use the structure built by Martynova and Renneboog (2010) that captures the PP agency conflicts of interest. Within the Worldwide Governance indicators, the rule of law is readily available to measure law enforcement on a yearly basis. Investor protection is not readily available within the WGI dataset, yet we make use of two underlying indices of the WGI dataset that provide a longitudinal and publicly available dataset. The Global Competitiveness Index (GCI) from the World Economic Forum (WEF) and the indices from the Heritage Foundation, provide a couple of indices that relate to *MINORITY SHAREHOLDERS PROTECTION* (Protection of Minority Interests, Strength of Investor Protection). The country-level corporate governance variables that are used in our study are presented in Table 1.2.

Table 1.2: Overview of the country-level corporate governance variables

Table 1.2 provides an overview of the country-level corporate governance variables that are included in this study. We borrow the structure and some variables measured in 2005 as measured by Martynova and Renneboog (2010), reflecting on both the PA (Shareholder Rights) , PP conflict of interest (Minority Investor Protection) and how the law is enforced (Rule of Law). Unravelling the Worldwide Governance Indicators (WGI, these variables are documented by Kaufmann *et al.*, 2010) from the World Bank, we investigate the relevant and publicly available indicators and the underlying indices that form the WGI. GCS is the Global Competitiveness from the World Economic Forum. The other 6 indices that are used to compile the WGI index are not publicly available or do not contain information on shareholder rights, minority investor protection or law enforcement. As such, these variables are not integrated in this study.

Category Subcomponent	Question / Definition	Source
Shareholder Rights		
SHAREHOLDER RIGHTS PROTECTION	This index reflects the shareholder's ability to mitigate managerial opportunistic behaviour. The index is constructed by combining 4 sub-indices: (1) appointment rights index (max=12), (2) decision rights index (max=8), (3) trusteeship rights index (max=5), (4) transparency index (max=7)	Martynova and Renneboog (2010)
Minority Investor Protection		
MINORITY SHAREHOLDERS PROTECTION	Based on the regulatory provisions aimed at increasing the relative power of the minority shareholders in a context of strong majority shareholders (max=27). The index is constructed by combining 4 sub-indices: (1) minority shareholders appointment rights index (max=5), (2) minority shareholders decisions rights index (max=4), (3) minority shareholders trusteeship rights index (max=4), (4) minority shareholder affiliation rights index (max=14)	Martynova and Renneboog (2010)
Alternative Measures of Minority Investor Protection.		
PROTECTION OF MINORITY INVESTORS	In your country, to what extent are the interests of minority shareholders protected by the legal system? [1 = not protected at all; 7 = fully protected]	GCS (Executive Opinion Survey)
STRENGTH OF MINORITY PROTECTION	Strength of Investor Protection Index on a 0–10 (best) scale	GCS (Doing Business)
Minority Investor Protection subcomponents.		
MINORITY APPOINTMENT RIGHTS	Is based on the appointment rights that can be used to protect minority shareholders. These include rights to reserve seats on the board of directors for minority shareholders or to limit voting power of large shareholders. The regulatory provisions are quantified as follows: - Minority representation on the board: 2 if required, 0 otherwise - Voting caps limiting power of large shareholders: 1 if voting caps are allowed, 0 if not. - One-share-one-vote rule: 0 if both multiple voting rights and non-voting shares are allowed; 1 if one of the two is allowed; 2 if none is allowed.	Martynova and Renneboog (2010)
MINOIRTY DECISION RIGHTS	Captures the ability of minority shareholders to affect fundamental corporate transactions that require a shareholder vote. The regulatory provisions are quantified as follows: - Supermajority requirement for approval of major company's decisions: 0 if 50% or less; 1 if more than 50%, but less than 75%; 2 if 75% or more. - Percentage needed to call for extraordinary meeting: 0 if the rule is not present or required percentage is between 20 and 5%; 2 if the percentage is 5% or less.	Martynova and Renneboog (2010)
MINORITY TRUSTEESHIP RIGHTS	Indicates the extent to which the board of directors serves as a trustee for minority shareholder, i.e. the directors are independent from the firm's controlling shareholders. The regulatory provisions are quantified as follows: - Nomination to the board by shareholders: 2 if shareholders voting to elect non-executive directors is not required (2-tier boards); 0 if required or 1-tier board. - Board independence: 2 if CEO cannot be the chairman of the board of directors (in 1-tier board structure) or if the overlap between management and supervisory board is forbidden (in 2-tier board structure), 0 otherwise.	Martynova and Renneboog (2010)
MINORITY AFFILIATION RIGHTS	Remaining regulatory provisions aimed at protecting minority shareholders: the principle of equal treatment (or shared returns) and rights for entry and exit on fair terms. The regulatory provisions are quantified as follows: - Equal treatment rule: 2 if required, 0 if not, - Mandatory disclosure of large ownership stakes: 0 if disclosure is not required or the minimum percent is 25% or more; 1 if 10% or more (less than 25%); 2 if 5% or more (less than 10%); 3 if less than 5%. - Mandatory bid rule: 0 if not required; 1 if 50% or control; 2 if between 50 and 30%; 3 if 30% or less. - Sell-out rule: The squeeze-out rule is used as a proxy for the sell-out rule, (assumption: sell-out is always in place if squeeze-out is adopted, with the same terms. - as squeeze-out): 0 if no squeeze-out; 1 if squeeze-out at 95% or more; 2 if squeeze-out at 90% or less. - Minority claim: 0 if no; 1 if 10% or more; 2 if 5% or more; 3 if less than 5%. - Break-through rule: 1 if required; 0 if not.	Martynova and Renneboog (2010)
Law Enforcement / Rule of Law		
RULE OF LAW	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. [-2.5 = weak governance; 2.5 strong governance]	WGI

Table 1.3 provides an overview of our study's dependent and test variables, together with their hypothesized sign on the abnormal returns for acquirer shareholders at the M&A announcement date. Besides, Table 1.3 also reports on our control variables, as M&A decisions can be influenced by the firm's financial strength, leverage, size and M/B ratio. Hence, we specify our models to also control for those forces. As agency problems likely are more severe when firms have plenty of cash that can be spent at the discretion of managers or large shareholders, we include *CASH RATIO*. Conversely, a high debt ratio (*LEVERAGE*) could reduce those problems, as it implies regular debt-service payments (Jensen, 1986). In line with Moeller *et al.* (2004), we expect conflicts of interest with managers to be more serious in the larger listed firms (*FIRM SIZE*). In a similar vein, managers of glamour acquirers (high *M/B* firms) are more likely to be infected by hubris (e.g., Rau & Vermaelen, 1998; Roll, 1986). Managers who overestimate their own capabilities could then pursue M&As in unfamiliar industries. Finally, we include year-, country- and industry fixed effects in our analyses.

Table 1.3: Explanatory variables

Table 1.3 shows the definition of the dependent and explanatory variables except for the country-level corporate governance (those are included in Table 2), and the hypothesized effect of the explanatory variables on the acquirer shareholder announcement returns.

Dependent Variables		
CAR	The cumulative abnormal return for acquirer shareholders over the [-1,+1] event window, with day 0 being the M&A announcement date.	
Explanatory variables		**CAR**
Acquirer ownership characteristics		
BLOCK	Continuous variable measuring the fraction of voting rights controlled by the acquirer's largest ultimate shareholder.	
BLOCK10_20	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 10%, but less than or equal to 20% of acquirer voting rights.	
BLOCK20_30	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 20%, but less than or equal to 30% of acquirer voting rights.	
BLOCK30_40	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 30%, but less than or equal to 40% of acquirer voting rights.	
BLOCK40_50	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 40%, but less than or equal to 50% of acquirer voting rights.	
BLOCK50_100	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 50%, but less than or equal to 100% of acquirer voting rights.	
BLOCK30_100	Dummy variable that equals one if the acquirer's largest ultimate shareholder controls more than 30% of acquirer voting rights	
Country-level corporate governance characteristics		
SHAREHOLDER RIGHTS PROTECTION	This index reflects a shareholder's ability to mitigate managerial opportunistic behaviour. The index is constructed by combining four sub-indices: (1) appointment rights index, (2) decision rights index, (3) trusteeship rights index, and (4) transparancy index	+
MINORITY SHAREHOLDERS PROTECTION	Regulatory provisions aimed at increasing the relative power of minority shareholders in a context of strong dominant shareholders. This index is constructed by combination of four sub-indices: (1) minority shareholders appointment rights index, (2) minority shareholders decision rights index, (3) minority shareholders trusteeship rights index, (4) minority shareholder affiliation rights index.	+
RULE OF LAW	Continuous variable ranging from -2.5 (weak) to 2.5 (strong) governance performance. This measure reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	+
Control variables		
DIVERSIFICATION	Dummy variable that equals one if none of the three-digit US SIC industries the acquirer is active in equals one of the three-digit US SIC industries of the target firm, and zero otherwise.	–
CROSS-BORDER	Dummy = 1 if the country in which the acquirer has its corporate headquarters is different from that of the target firm, 0 otherwise	
CASH RATIO	Cash and cash equivalents / total assets in the year before M&A	–
LEVERAGE	Long-term debt / total assets in the year before M&A	+
FIRM SIZE	Natural logarithm of total assets (thousands of euro) in the year before M&A	–
M/B	Market-to-book ratio: market value of the ordinary (common) equity divided by the balance sheet value of the ordinary (common) equity in the last-available financial statements in the year before M&A announcement	–

1.3.3 Summary statistics

Table 1.4 reports the average and median acquirer CAR over different event windows. The largest acquirer stock price reaction takes place in the [-1,+1] window, with a significant abnormal price jump of 1.14% on average in the full sample ($p < 0.01$). Over the [-5,+5] window, acquirer shareholders realize a significant average CAR of 1.00% ($p < 0.01$). This significant positive CAR also arises over the [-35,+5] window, averaging to 0.92% ($p < 0.01$). The median acquirer CAR is lower, yet still significantly different from zero over the [-1,+1], [-5,+5] ($p < 0.01$) and [-35,+5] window ($p < 0.10$). Arguably, the above numbers point out that stock market investors perceive M&As by listed acquirers in Europe during the 2007–2013 time frame to create shareholder value on average (see also Craninckx & Huyghebaert, 2011; Martynova & Renneboog, 2011).

When comparing the subsamples of related versus unrelated acquisitions, Panel B of Table 1.4 reveals that the acquirer CAR is not significantly different across the industry-related and industry-diversifying M&As in our sample.

Figure 1.1 depicts the average acquirer CAR surrounding the deal announcement date. Before deal notification, it is slightly negative, yet close to zero. At M&A announcement, the average acquirer CAR exhibits a significant upward jump. This pattern is highly comparable to that found by Martynova and Renneboog (2011, p. 232), who analyze 2,419 M&As taking place in Europe between 1993 and 2001.

Table 1.4: Acquirer CARs over Various Event Windows

Table 1.4 presents the average and median acquirer CAR for different event windows. The significance of the average CAR is tested by means of the Dodd and Warner (1983) parametric test. The significance of the median CAR is tested by means of the non-parametric Corrado test. Results are displayed for the full sample (Panel A) and for the subsamples of industry-related versus industry-diversifying transactions (Panel B). The CARs that are significantly different from zero are highlighted in bold. CARs significant at the 10%, 5%, and 1% level are marked with *, ** and ***, respectively.

		Event window		
		[-1,+1]	[-5,+5]	[-35,+5]
Panel A: Full sample				
Averages				
	CAR%	**1.1416** ***	**1.0008** ***	**0.9260** ***
	p-value	**0.0000**	**0.0000**	**0.0004**
Medians				
	CAR%	**0.3974** ***	**0.4299** ***	**0.0579** *
	p-value	**0.0000**	**0.0000**	**0.0673**
Panel B: Related takeovers versus Diversifying takeovers				
Related takeovers				
Averages				
	CAR%	**1.1977** ***	**1.0684** **	0.7996
	p-value	**0.0000**	**0.0000**	0.0064
Diversifying takeovers				
Averages				
	CAR%	**1.0470** ***	**0.8868** ***	**1.1391** **
	p-value	**0.0000**	**0.0007**	**0.0235**
Comparison of related versus diversifying takeovers (difference in means)				
Averages				
	ΔCAR%	0.1508	0.1816	-0.3395
	p-value	0.4532	0.5453	0.5317

Figure 1.1: Acquirer abnormal returns around the M&A announcement date

This figure shows the cumulative abnormal return (*CAR, vertical axis*) for acquirer shareholders to the announcement of an M&A from 35 days before to 5 days after the deal announcement date (day 0, *horizontal axis*). The benchmark used in the market model is the MSCI Europe index; the model parameters are estimated over 200 days, starting 250 days before the event date.

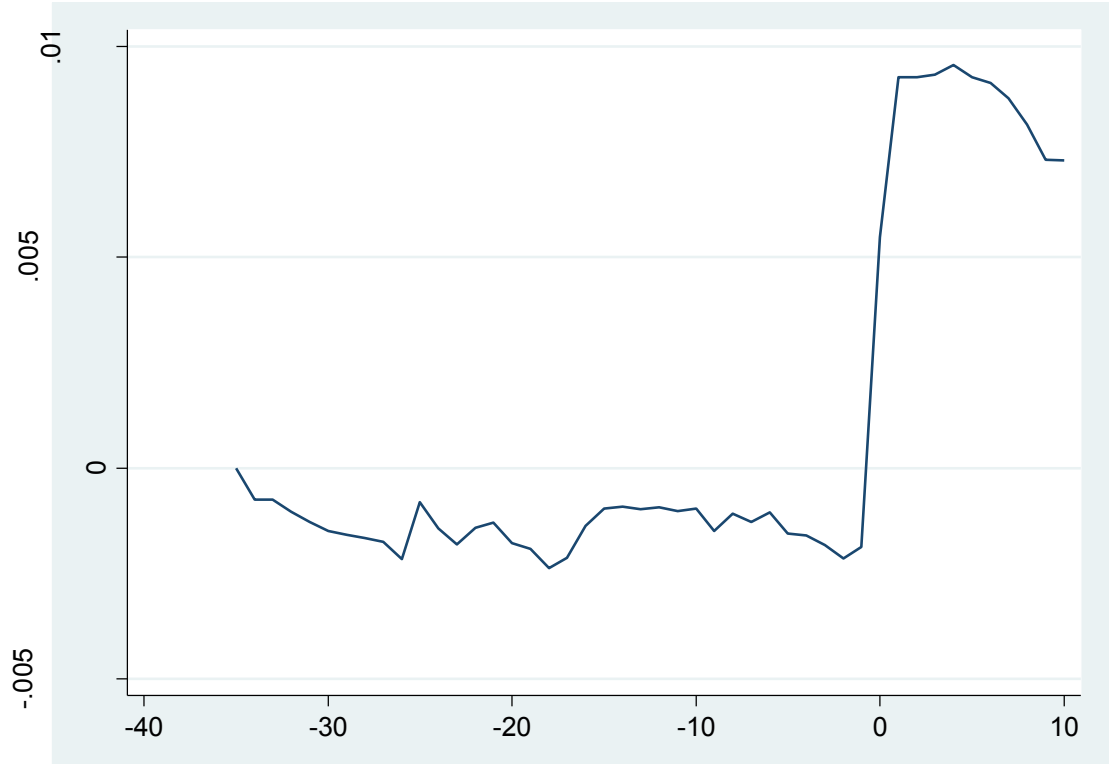

Table 1.5 reports summary statistics for all the continuous explanatory variables, which, unless stated otherwise, are measured at fiscal year-end before M&A announcement in order to avoid reverse causality problems. To limit the influence of outliers, all the variables – except the dummy variables – are winsorized at 1%–99%. Table 5, Panel A shows that the average voting-rights stake of the acquirer's largest ultimate shareholder equals 29.5% (median *BLOCK* of 23.1%), which differs only weakly between industry-diversifying and industry-related takeovers. If anything, firms engaging in industry-diversifying M&As have a larger controlling blockholder. Acquirers that engage in industry-diversifying takeovers on average score higher on *SHAREHOLDER RIGHTS PROTECTION* and *MINORITY SHAREHOLDER PROTECTION*, but lower on *RULE OF LAW* than acquirers in industry-related takeovers. Next, the *CASH RATIO* is significantly lower for firms engaging in industry-diversifying takeovers, while the opposite is true for *LEVERAGE*. *FIRM SIZE* does not differ across industry-diversifying and industry-related M&As. The acquirer M/B ratio is significantly larger for firms that pursue horizontal M&As.

The correlation matrix, presented in Table 1.6, shows significant and relatively high correlations between the various country-level corporate governance variables. From this table, it is clear that *SHAREHOLDER RIGHTS PROTECTION*, *MINORITY SHAREHOLDERS PROTECTION* and *RULE OF LAW* are highly correlated, which is evidence that law – making (*SHAREHOLDER PROTECTION RIGHTS* and *STRENGTH OF INVESTOR PROTECTION*) and –enforcing (*RULE OF LAW*) are developed on an equal basis. Surprisingly, *MINORITY AFFILIATION RIGHTS* have a negative correlation with five of the eight other variables, and *RULE OF LAW* has a negative correlation with half of the other variables.

Table 1.5: Summary statistics on the explanatory variables

Table 1.5 reports summary statistics on the explanatory variables for the full sample, for the subsamples of diversifying and related takeovers. Table 3 presents definitions of all the variables. The last two columns show the p-values of a two-group parametric and non-parametric comparison test.

Variable	N	Mean	Median	Std.dev	N	Mean	Median	Std.dev	*p*-value on *t*-test	*p*-value on Wilcoxon test
Panel A: Full sample										
BLOCK	5,139	0.2945	0.2310	0.2089						
SHAREHOLDER RIGHTS PROTECTION	5,139	18.9321	19.0000	4.3391						
MINORITY SHAREHOLDER PROTECTION	5,139	14.3063	16.0000	2.4132						
RULE OF LAW	5,139	1.5659	1.6820	0.3805						
CASH RATIO	4,873	0.1215	0.0791	0.1265						
LEVERAGE	4,719	0.1367	0.1126	0.1288						
FIRM SIZE	4,915	13.1237	13.0893	2.3095						
M/B	4,825	2.7156	2.1700	2.2617						
Panel B: Industry-diversifying versus industry-related takeovers										
	Industry-diversifying takeovers				**Industry-related takeovers**					
BLOCK	1,914	0.3021	0.2357	0.2152	3,225	0.2899	0.2289	0.2050	**0.0429**	0.1580
SHAREHOLDER RIGHTS PROTECTION	1,914	19.1447	19.0000	4.3854	3,225	18.8059	19.0000	4.3070	**0.0068**	**0.0375**
MINORITY SHAREHOLDER PROTECTION	1,914	14.4953	16.0000	2.4143	3,225	14.1941	15.0000	2.4060	**0.0000**	**0.0000**
RULE OF LAW	1,914	1.5471	1.6820	0.4005	3,225	1.5771	1.6820	0.3677	**0.0063**	**0.0169**
CASH RATIO	1,807	0.1123	0.0745	0.1206	3,066	0.1270	0.0838	0.1295	**0.0001**	**0.0000**
LEVERAGE	1,758	0.1440	0.1171	0.1329	2,961	0.1323	0.1102	0.1262	**0.0024**	**0.0046**
FIRM SIZE	1,828	13.1719	13.1491	2.3743	3,087	13.0951	13.0487	2.2702	0.2600	0.1031
M/B	1,774	2.6294	2.1200	2.2296	3,051	2.7657	2.2100	2.2790	**0.0435**	**0.0388**

Table 1.6: Correlation table

Table 1.6 reports the correlation coefficients for the country-level corporate governance explanatory variables for the full sample. Correlations that are significantly different from zero are highlighted in bold. Table 1 presents a definition of all variables. Appendix 2 provides a more extensive correlation table (without *p*-values and significances).

		1	2	3	4	5	6	7	8
1	SHAREHOLDER RIGHTS PROTECTION								
2	MINORITY SHAREHOLDERS PROTECTION	**0.6188*** **							
		(0.0000)							
3	MINORITY APPOINTMENT RIGHTS	**0.4371*** **	**0.4532*** **						
		(0.0000)	**(0.0000)**						
4	MINORITY DECISION RIGHTS	**0.5777*** **	**0.7386*** **	**0.4279*** **					
		(0.0000)	**(0.0000)**	**(0.0000)**					
5	MINORITY TRUSTEESHIP RIGHTS	**0.1735*** **	**-0.0323** **	**0.2766*** **	**0.4375*** **				
		(0.0000)	**(0.0207)**	**(0.0000)**	**(0.0000)**				
6	MINORITY AFFILIATION RIGHTS	**0.2485*** **	**0.6804*** **	**-0.1686*** **	**0.1744*** **	**-0.6596*** **			
		(0.0000)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**			
7	PROTECTION OF MINORITY SHAREHOLDERS' INTERESTS	**-0.1805*** **	**-0.4946*** **	**-0.1768*** **	**0.0556*** **	**0.4804*** **	**-0.6382*** **		
		(0.0000)	**(0.0000)**	**(0.0000)**	**0.0006**	**(0.0000)**	**(0.0000)**		
8	STRENGTH OF INVESTOR PROTECTION	**0.6541*** **	**0.3333*** **	**0.4855*** **	**0.5998*** **	**0.2025*** **	**-0.0766*** **	**0.1414*** **	
		(0.0000)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	
9	RULE OF LAW	**-0.1250*** **	**-0.4723*** **	**-0.2998*** **	**0.0598*** **	**0.4392*** **	**-0.5486*** **	**0.8106*** **	**0.1840*** **
		(0.0000)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**

1.4 Multivariate regression results

In the first part of this section, we examine the impact of acquirer ownership structure and country-level corporate governance on the acquirer abnormal returns obtained from the event study, by means of an OLS regression analysis. Thereafter, we investigate the impact of the interaction between ownership concentration and country-level CG measures on short-term M&A announcement returns to better understand the impact of country-level CG measures on the principal-principal conflict of interest in a European context. Finally, we implement a subsample analysis in which we investigate industry-diversifying versus industry-related M&As.[5]

1.4.1 Impact of ownership and country-level governance on M&A value creation

Table 1.7 reports the OLS regressions results for the acquirer CAR over the [-1,+1] event window. As far as the ownership variables are concerned, model 1 displays the results for the impact of the continuous variable *BLOCK* on the acquirer CAR in the full sample of M&As, thereby revealing a significant negative effect ($p < 1\%$). In line with *Hypothesis 1*, this outcome thus signifies that minority investors perceive M&As initiated by firms with a large controlling blockholder to create less shareholder value on average. A negative sign is in line with the idea of minority-investor expropriation, providing empirical support for a principal–principal conflict of interest. Model 2 accounts for a potential non-linear effect of this ownership stake on M&A value creation, for which we fail to find empirical support. Moreover, as the VIF factors of both *BLOCK* and *BLOCK_SQ* are above 13, the correlation between those variables may be too high to draw any relevant conclusions. Model 3 therefore relies on dummy variables to assess a potential non-linear influence of acquirer ownership concentration on M&A value creation for acquirer shareholders. Firms with a highly-dispersed

[5] In a previous version of this paper, we implemented a split sample approach by investigating *CROSS-BORDER* versus *DOMESTIC* M&As. Yet, as we analyse those split samples, the results do not confirm that the differences between *CROSS-BORDER* and *DOMESTIC* M&As can be related to minority investor expropriation, as ownership does not have a significant negative impact on the CARs in cross-border deals.

ownership structure (voting-rights stake of the acquirer's largest ultimate shareholder is less than ten percent) are included in the reference category for this regression analysis. We observe a significant negative effect of the *BLOCK30_40* ($p < 5\%$) and *BLOCK 50_100* ($p < 10\%$) dummy variables. The coefficient on *BLOCK40_50* points in the same direction, but is not significant at conventional levels. Those findings further add to the argument that above a certain threshold (i.e. when the voting-rights stake exceeds 30%), the ownership incentive structure changes away from firm-value maximization, which is felt by a firm's minority investors by means of less valuable M&A strategies. Model 4 depicts the impact of the ownership dummy *BLOCK30_100*, which equals one for acquirers with a blockholder controlling at least 30% of the firm's voting rights, and zero otherwise. Here again, we observe a significant negative impact of concentrated ownership ($p < 1\%$). Overall, the above results therefore confirm that a firm's largest ultimate shareholder's incentives change from shareholder-value maximization to a principal–principal conflict of interest as it becomes too dominant.

As far as country-level corporate governance is concerned, we include *SHAREHOLDER RIGHTS PROTECTION*, *MINORITY SHAREHOLDER PROTECTION* and *RULE OF LAW*. To our surprise, none of these three aggregated indices covering shareholder rights, minority investor protection, nor the rule of law are significant in models 1 to 4. We further integrate *PROTECTION OF MINORITY SHAREHOLDERS*, *STRENGTH OF MINORITY PROTECTION*, and the four subcomponents of *MINORITY SHAREHOLDER PROTECTION*: *MINORITY APPOINTMENT RIGHTS*, *MINORITY DECISION RIGHTS*, *MINORITY TRUSTEESHIP RIGHTS* and *MINORITY AFFILIATION RIGHTS*. Yet, when we investigate the subcomponents and alternative measures of *MINORITY SHAREHOLDER PROTECTION*, we note that *MINORITY APPOINTMENT RIGHTS* and *MINORITY DECISION RIGHTS* have a significant positive impact on acquirer announcement returns. These outcomes are in line with *Hypothesis 2*, implying that minority investors that are better protected by law, can expect that more of an acquirer's profits will flow back to the investors when an M&A transaction is announced. The three regulatory provisions capturing the appointment rights index for minority investors, i.e. minority representation on the board, voting caps limiting the power of

large shareholders and the one-share-one-vote rule, are effective in providing a country-level environment that enables acquirers to undertake value-increasing acquisitions. Also, the *MINORITY AFFILIATION RIGHTS* variable (see model 11) has a significant negative impact on acquirer announcement returns ($p < 1\%$), which we cannot explain.

As to the control variables, we note that *DIVERSIFICATION* has a significant negative effect on the acquirer CAR ($p < 1\%$), a result that is in line with the literature (e.g., Amihud & Lev, 1981; Defrancq *et al.*, 2016). *CROSS-BORDER* and *CASH RATIO* are never significant. *LEVERAGE* is only significant in models 6 and 7 ($p < 10\%$), having a positive impact on the acquirer *CAR*. We further find that *FIRM SIZE* has a highly significant negative influence on acquirer shareholder abnormal returns surrounding the deal announcement date ($p < 1\%$), a result that is in line with earlier findings by Moeller *et al.* (2004). Correspondingly, the larger acquirers in our sample engage in M&A transactions that create significantly less value for their shareholders than the smaller sample firms. Finally, the *M/B* ratio has a significant negative effect on acquirer announcement returns ($p < 5\%$). This outcome indicates that stock market investors are highly concerned about managers over-extrapolating past performance when subsequently engaging in M&As (see also Rau & Vermaelen, 1998).

Table 1.7: Ownership and country-level corporate governance as determinants of M&A announcement returns

Table 1.7 shows the OLS regression results as to the acquirer *CAR* over the [-1,+1] window. Table 3 provides an overview of the dependent and explanatory variables, their measurement, and their hypothesized effect on the acquirer *CAR*. All control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses. Fixed effects (Year, Country and Industry) are included in all models.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
BLOCK	**-0.0129*** **	-0.0125			**-0.0128*** **	-0.0055	-0.0057	**-0.0128*** **	**-0.0128*** **	**-0.0128*** **	**-0.0128*** **
	(0.0040)	(0.4076)			**(0.0042)**	(0.2974)	(0.2859)	**(0.0042)**	**(0.0042)**	**(0.0042)**	**(0.0042)**
BLOCK_SQ		-0.0005									
		(0.9779)									
BLOCK10_20			0.0024								
			(0.3877)								
BLOCK20_30			0.0004								
			(0.9059)								
BLOCK30_40			**-0.0070** **								
			(0.0291)								
BLOCK40_50			-0.0018								
			(0.6045)								
BLOCK50_100			**-0.0057***								
			(0.0522)								
BLOCK30_100				**-0.0063*** **							
				(0.0015)							
SHAREHOLDER RIGHTS PROTECTION	-0.0132	-0.0132	-0.0149	-0.0142							
	(0.2005)	(0.2016)	(0.1408)	(0.1610)							
MINORITY SHAREHOLDER PROTECTION	0.0026	0.0026	0.0032	0.0029	-0.0013						
	(0.4733)	(0.4736)	(0.3618)	(0.4149)	(0.3524)						
RULE OF LAW	0.0098	0.0098	0.0091	0.0093							
	(0.5820)	(0.5823)	(0.6083)	(0.5986)							
PROTECTION OF MINORITY INTERESTS						0.0088					
						(0.1899)					
STRENGTH OF MINORITY PROTECTION							0.0087				
							(0.2842)				
MINORITY APPOINTMENT RIGHTS								**0.0117*** **			
								(0.0069)			
MINORITY DECISION RIGHTS									**0.0352*** **		
									(0.0069)		
MINORITY TRUSTEESHIP RIGHTS										-0.0005	
										(0.9243)	
MINORITY AFFILIATION RIGHTS											**-0.0088*** **
											(0.0069)
DIVERSIFICATION	**-0.0045*** **	**-0.0045*** **	**-0.0044*** **	**-0.0045*** **	**-0.0045*** **	**-0.0050** **	**-0.0049** **	**-0.0045*** **	**-0.0045*** **	**-0.0045*** **	**-0.0045*** **
	(0.0086)	**(0.0086)**	**(0.0099)**	**(0.0079)**	**(0.0086)**	**(0.0162)**	**(0.0173)**	**(0.0086)**	**(0.0086)**	**(0.0086)**	**(0.0086)**
CROSS-BORDER	0.0021	0.0021	0.0020	0.0020	0.0021	0.0014	0.0014	0.0021	0.0021	0.0021	0.0021
	(0.2916)	(0.2932)	(0.3197)	(0.3153)	(0.2939)	(0.5611)	(0.5576)	(0.2939)	(0.2939)	(0.2939)	(0.2939)
CASH RATIO	-0.0159	-0.0159	-0.0153	-0.0159	-0.0160	-0.0175	-0.0175	-0.0160	-0.0160	-0.0160	-0.0160
	(0.1856)	(0.1858)	(0.2009)	(0.1872)	(0.1850)	(0.1404)	(0.1381)	(0.1850)	(0.1850)	(0.1850)	(0.1850)
LEVERAGE	0.0129	0.0129	0.0135	0.0125	0.0128	0.0185*	0.0186*	0.0128	0.0128	0.0128	0.0128
	(0.1463)	(0.1467)	(0.1295)	(0.1575)	(0.1472)	(0.0987)	(0.0973)	(0.1472)	(0.1472)	(0.1472)	(0.1472)
FIRM SIZE	**-0.0042*** **	**-0.0042*** **	**-0.0041*** **	**-0.0041*** **	**-0.0042*** **	**-0.0043*** **	**-0.0042*** **	**-0.0042*** **	**-0.0042*** **	**-0.0042*** **	**-0.0042*** **
	(0.0000)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**
M/B	**-0.0013*** **	**-0.0013*** **	**-0.0013*** **	**-0.0013*** **	**-0.0013*** **	**-0.0014** **	**-0.0014** **	**-0.0013*** **	**-0.0013*** **	**-0.0013*** **	**-0.0013*** **
	(0.0052)	**(0.0051)**	**(0.0064)**	**(0.0053)**	**(0.0053)**	**(0.0263)**	**(0.0278)**	**(0.0053)**	**(0.0053)**	**(0.0053)**	**(0.0053)**
Constant	**0.2717** **	**0.2715** **	**0.2852** **	**0.2802** **	**0.1706*** **	0.0062	0.0207	**0.1017*** **	0.0430	**0.1497*** **	**0.2192*** **
	(0.0235)	**(0.0241)**	**(0.0161)**	**(0.0183)**	**(0.0000)**	(0.8639)	(0.5470)	**(0.0000)**	(0.2102)	**(0.0000)**	**(0.0000)**
Observations	4,419	4,419	4,419	4,419	4,419	3,296	3,296	4,419	4,419	4,419	4,419
Adjusted R^2	0.1161	0.1161	0.1173	0.1167	0.1161	0.1323	0.1319	0.1161	0.1161	0.1161	0.1161
Maximum VIF	2.48	13.58	2.49	2.48	1.32	1.33	1.33	1.33	1.32	1.35	1.36

1.4.2 Interaction between ownership concentration and country-level corporate governance

Table 1.8 displays regression models including an interaction effects between ownership concentration and the various *MINORITY SHAREHOLDER PROTECTION* constructs. We include the dummy variable *BLOCK30_100* as a single term in the models in Table 1.8, whereas we make use of *BLOCK*, the continuous variable that captures the ownership stake of the acquirer's largest blockholder, to construct the interaction terms. Indeed, because of multicollinearity, we could not run the models with the variable *BLOCK* and its interaction with the corporate governance variables in one and the same model. So, we use this dummy variable *BLOCK30_100* as our findings in Table 1.7 revealed that any positive blockholder effects disappears above 30% ownership (see also Anderson and Reeb, 2003). Except for models 3 and 4, all models in Table 1.8 reveal a significant negative impact of *BLOCK30_100* on the acquirer announcement returns (p <10% for models 1, 2, 6 and 9; p < 5% for models 5, 7 and 8). Yet, when we take a look at the interaction terms between *BLOCK* and *MINORITY SHAREHOLDER PROTECTION*, we cannot find a single interaction variable that has a significant impact on acquirer abnormal announcement returns. We thus cannot confirm *Hypothesis 3* that country-level investor protection mitigates the expropriation by large shareholders. Neither can we confirm *Hypothesis 4* that country-level law enforcement (i.e. rule of law) mitigates the hypothesized expropriation effect by large blockholders.

As far as the control variables are concerned, *DIVERSIFICATION* has a significant negative effect on the acquirer *CAR* (p < 1%). The variables of *CROSS-BORDER*, *CASH RATIO* and *LEVERAGE* are never significant. *FIRM SIZE* and *M/B* has a highly significant negative influence on shareholder abnormal returns surrounding the deal announcement date (p < 1%).

Table 1.8: Interaction of minority investor protection and ownership as determinants of M&A announcement returns

Table 1.8 shows the OLS regression results as to the acquirer *CAR* over the [-1,+1] window. Table 3 provides an overview of the dependent and explanatory variables, their measurement, and their hypothesized effect on the acquirer *CAR*. All control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
BLOCK30_100	**-0.0058***	**-0.0059***	-0.0044	-0.0039	**-0.0060****	**-0.0054***	**-0.0052****	**-0.0064****	**-0.0054***
	(0.0669)	**(0.0664)**	(0.2632)	(0.3309)	**(0.0376)**	**(0.0877)**	**(0.0362)**	**(0.0336)**	**(0.0894)**
SHAREHOLDER RIGHTS PROTECTION	-0.0142								
	(0.1607)								
MINORITY SHAREHOLDER PROTECTION	0.0030	-0.0012	-0.0007	-0.0007	-0.0012	-0.0012	-0.0012	-0.0013	-0.0012
	(0.4080)	(0.3719)	(0.6841)	(0.6919)	(0.4167)	(0.3911)	(0.3896)	(0.3441)	(0.3601)
RULE OF LAW	0.0094								
	(0.5970)								
BLOCK * MINORITY SHAREHOLDER PROTECTION	-0.0001	-0.0001							
	(0.8505)	(0.8572)							
BLOCK * PROTECTION OF MINORITY SHAREHOLDERS			0.0006						
			(0.7217)						
BLOCK * STRENGTH OF MINORITY PROTECTION				0.0002					
				(0.8801)					
BLOCK * MINORITY APPOINTMENT RIGHTS					-0.0005				
					(0.8734)				
BLOCK * MINORITY DECISION RIGHTS						-0.0011			
						(0.7132)			
BLOCK * MINORITY TRUSTEESHIP RIGHTS							-0.0027		
							(0.4610)		
BLOCK * MINORITY AFFILIATION RIGHTS								0.0000	
								(0.9700)	
BLOCK * RULE OF LAW									-0.0018
									(0.6913)
DIVERSIFICATION	**-0.0045*****	**-0.0045*****	**-0.0050****	**-0.0050****	**-0.0045*****	**-0.0045*****	**-0.0045*****	**-0.0045*****	**-0.0045*****
	(0.0082)	**(0.0082)**	**(0.0159)**	**(0.0160)**	**(0.0079)**	**(0.0081)**	**(0.0079)**	**(0.0081)**	**(0.0080)**
CROSS-BORDER	0.0020	0.0020	0.0013	0.0014	0.0020	0.0020	0.0020	0.0020	0.0020
	(0.3147)	(0.3171)	(0.5796)	(0.5735)	(0.3170)	(0.3153)	(0.3123)	(0.3196)	(0.3147)
CASH RATIO	-0.0159	-0.0160	-0.0177	-0.0177	-0.0159	-0.0160	-0.0160	-0.0159	-0.0160
	(0.1864)	(0.1859)	(0.1366)	(0.1356)	(0.1869)	(0.1850)	(0.1843)	(0.1867)	(0.1845)
LEVERAGE	0.0126	0.0126	**0.0185***	**0.0185***	0.0126	0.0126	0.0127	0.0125	0.0126
	(0.1550)	(0.1559)	**(0.0986)**	**(0.0975)**	(0.1566)	(0.1542)	(0.1521)	(0.1580)	(0.1550)
FIRM SIZE	**-0.0041*****	**-0.0042*****	**-0.0043*****	**-0.0043*****	**-0.0041*****	**-0.0042*****	**-0.0041*****	**-0.0041*****	**-0.0042*****
	(0.0000)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**
M/B	**-0.0013*****	**-0.0013*****	**-0.0014****	**-0.0014****	**-0.0013*****	**-0.0013*****	**-0.0013*****	**-0.0013*****	**-0.0013*****
	(0.0053)	**(0.0054)**	**(0.0291)**	**(0.0292)**	**(0.0056)**	**(0.0054)**	**(0.0052)**	**(0.0053)**	**(0.0055)**
	0.2801**	**0.1691*****	**0.0689*****	**0.0691*****	**0.1684*****	**0.1689*****	**0.1701*****	**0.1695*****	**0.1698*****
Constant	**(0.0185)**	**(0.0000)**	**(0.0034)**	**(0.0032)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**
	4,419	4,419	3,296	3,296	4,419	4,419	4,419	4,419	4,419
Observations	0.1167	0.1166	0.1320	0.1319	0.1166	0.1167	0.1167	0.1166	0.1167
Adjusted R^2	192	190	176	175	190	190	190	190	190
Maximum VIF	3.35	3.27	3.04	2.72	1.73	2.78	1.34	2.74	2.34

1.4.3 Subsample analysis: Industry-diversifying versus industry-related acquisitions

To further investigate the PP conflict of interest between large shareholders and minority investors in Europe, we introduce split-sample analyses in the section hereafter. Specifically, we discuss the results for industry-diversifying versus industry-related acquisitions.

Table 1.9 displays the industry-diversifying versus industry-related M&As. As industry-diversifying acquisitions may be used by blockholders to expropriate value from minority investors (Defrancq *et al.*, 2016; Kim *et al.*, 1993; Miller *et al.*, 2010), it is relevant to split-up between industry-diversifying M&As and industry-related M&As. For the subsample of industry-diversifying subsample, we notice a negative impact of the *BLOCK30_100* dummy on the acquirer CAR, confirming *Hypothesis 1* that large blockholders are more prone to expropriate value from minority investors when they control a substantial part of the acquirer's voting rights. From the subsample of industry-related acquisitions, we cannot draw a similar conclusion as *BLOCK30_100* is not significant. Apparently, when acquirers having a concentrated ownership structure engage in industry-diversifying transactions, there is a more negative reaction in the acquirer firm's stock price, in line with the idea that concentrated owners expropriate value from minority investors by diversifying their concentrated wealth through acquisitions with the firm in which their main source of wealth is locked up. As far as the interaction effects are concerned, within diversifying deals, we notice a significant positive effect ($p < 10\%$) for the interaction *BLOCK * PROTECTION OF MINORITY SHAREHOLDERS* (model 3) and for the interaction *BLOCK * MINORITY AFFILIATION RIGHTS*, in line with *Hypothesis 3* that country-level investor protection mitigates the expropriation by large shareholders. For the related subsample, the negative interaction effect is only borderline significant. This result is not found for the interaction between *BLOCK* and *RULE OF LAW* (models 9 and 18).

As to the control variables, we find that *FIRM SIZE* has a significant negative impact on bidder *CAR* ($p < 5\%$) for both industry-diversifying and industry-related subsamples. For the subsample of industry-related acquisitions, *M/B* has a significant negative impact on bidder *CAR* ($p < 1\%$).

Table 1.9: Ownership and country-level governance as determinant of M&A value creation: industry-diversifying vs -related M&As

Table 1.9 shows the OLS regression results as to the acquirer *CAR* over the [-1,+1] window for the subsamples of industry-diversifying and industry-related subsamples. Table 3 provides an overview of the dependent and explanatory variables, their measurement, and their hypothesized effect on the acquirer *CAR*. All control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	Industry-diversifying subsample									Industry-related subsample								
G170415v03	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
BLOCK30_100	**-0.0125****	**-0.0122****	**-0.0159****	**-0.0125***	-0.0066	**-0.0118****	**-0.0083***	**-0.0126****	**-0.0103***	-0.0013	-0.0013	0.0020	0.0015	-0.0048	-0.0011	-0.0039	-0.0019	-0.0025
	(0.0200)	**(0.0224)**	**(0.0202)**	**(0.0799)**	(0.1749)	**(0.0265)**	**(0.0578)**	**(0.0132)**	**(0.0547)**	(0.7539)	(0.7598)	(0.6938)	(0.7690)	(0.1980)	(0.7970)	(0.2235)	(0.6240)	(0.5366)
SHAREHOLDER RIGHTS PROTECTION INDEX 2005	-0.0361***									0.0130								
	(0.0058)									(0.3679)								
MINORITY SHAREHOLDER PROTECTION INDEX	0.0098**	-0.0000	0.0008	0.0010	0.0007	0.0001	0.0005	0.0001	0.0005	-0.0058	-0.0024	-0.0017	-0.0019	-0.0025	-0.0024	-0.0027	-0.0026	-0.0028
	(0.0273)	(0.9936)	(0.6223)	(0.5456)	(0.7276)	(0.9738)	(0.7733)	(0.9406)	(0.7712)	(0.2603)	(0.2029)	(0.5154)	(0.4833)	(0.1942)	(0.2037)	(0.1320)	(0.1582)	(0.1241)
RULE OF LAW	-0.0316									0.0332								
	(0.1919)									(0.1891)								
BLOCK * MINORITY SHAREHOLDER PROTECTION	0.0011	0.0011								**-0.0011***	**-0.0011***							
	(0.1481)	(0.1621)								**(0.0908)**	**(0.0930)**							
BLOCK * PROTECTION OF MINORITY SHAREHOLDERS			**0.0051***									-0.0024						
			(0.0506)									(0.2723)						
BLOCK * STRENGTH OF INVESTOR PROTECTION				0.0029									-0.0018					
				(0.2777)									(0.3151)					
BLOCK * MINORITY APPOINTMENT RIGHTS					-0.0005									-0.0026				
					(0.9302)									(0.5006)				
BLOCK * MINORITY DECISION RIGHTS						0.0058									**-0.0070***			
						(0.1977)									**(0.0802)**			
BLOCK * MINORITY TRUSTEESHIP RIGHTS							0.0030									-0.0063		
							(0.5709)									(0.1739)		
BLOCK * MINORITY AFFILIATION RIGHTS								**0.0019***									**-0.0016***	
								(0.0905)									**(0.0977)**	
BLOCK * RULE OF LAW									0.0060									-0.0077
									(0.3803)									(0.1838)
CROSS-BORDER	0.0017	0.0017	-0.0003	-0.0001	0.0019	0.0018	0.0018	0.0018	0.0018	0.0026	0.0026	0.0031	0.0031	0.0025	0.0026	0.0025	0.0026	0.0025
	(0.6277)	(0.6131)	(0.9401)	(0.9785)	(0.5810)	(0.6080)	(0.6020)	(0.6086)	(0.6032)	(0.3097)	(0.3164)	(0.3301)	(0.3354)	(0.3332)	(0.3184)	(0.3352)	(0.3175)	(0.3277)
CASH RATIO	-0.0113	-0.0109	-0.0120	-0.0120	-0.0106	-0.0107	-0.0106	-0.0109	-0.0105	-0.0123	-0.0126	-0.0151	-0.0151	-0.0123	-0.0126	-0.0124	-0.0126	-0.0125
	(0.5264)	(0.5392)	(0.5635)	(0.5657)	(0.5488)	(0.5441)	(0.5500)	(0.5371)	(0.5530)	(0.4477)	(0.4379)	(0.3290)	(0.3286)	(0.4479)	(0.4377)	(0.4450)	(0.4362)	(0.4401)
LEVERAGE	0.0110	0.0104	0.0224	0.0229	0.0108	0.0105	0.0105	0.0106	0.0104	0.0165	0.0161	0.0207	0.0207	0.0154	0.0162	0.0157	0.0159	0.0157
	(0.4175)	(0.4390)	(0.1933)	(0.1850)	(0.4218)	(0.4374)	(0.4351)	(0.4300)	(0.4397)	(0.2128)	(0.2234)	(0.2322)	(0.2332)	(0.2450)	(0.2225)	(0.2392)	(0.2269)	(0.2365)
FIRM SIZE	**-0.0023****	**-0.0022****	**-0.0026****	**-0.0027****	**-0.0023****	**-0.0023****	**-0.0023****	**-0.0022****	**-0.0023****	**-0.0055*****	**-0.0055*****	**-0.0054*****	**-0.0054*****	**-0.0053*****	**-0.0055*****	**-0.0053*****	**-0.0055*****	**-0.0054*****
	(0.0175)	**(0.0211)**	**(0.0330)**	**(0.0307)**	**(0.0159)**	**(0.0191)**	**(0.0159)**	**(0.0251)**	**(0.0189)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**
M/B	-0.0002	-0.0002	0.0003	0.0003	-0.0001	-0.0001	-0.0001	-0.0002	-0.0001	**-0.0017*****	**-0.0018*****	**-0.0023****	**-0.0023****	**-0.0018*****	**-0.0018*****	**-0.0018*****	**-0.0018*****	**-0.0018*****
	(0.7666)	(0.8202)	(0.7461)	(0.7464)	(0.8824)	(0.8335)	(0.8717)	(0.8124)	(0.8533)	**(0.0098)**	**(0.0097)**	**(0.0245)**	**(0.0246)**	**(0.0099)**	**(0.0091)**	**(0.0087)**	**(0.0100)**	**(0.0096)**
Constant	**0.4391*****	**0.0467****	0.0273	0.0282	0.0392	**0.0453****	**0.0407***	**0.0461****	**0.0399***	0.0120	**0.1976*****	**0.4506*****	**0.4507*****	**0.1972*****	**0.1991*****	**0.2046*****	**0.1989*****	**0.2041*****
	(0.0049)	**(0.0340)**	(0.2730)	(0.2716)	(0.1261)	**(0.0396)**	**(0.0683)**	**(0.0334)**	**(0.0673)**	(0.9434)	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**	**(0.0000)**
Observations	1,627	1,627	1,232	1,232	1,627	1,627	1,627	1,627	1,627	2,792	2,792	2,064	2,064	2,792	2,792	2,792	2,792	2,792
R-squared	0.1874	0.1864	0.2210	0.2192	0.1852	0.1862	0.1854	0.1868	0.1857	0.1383	0.1376	0.1536	0.1536	0.1370	0.1377	0.1374	0.1376	0.1373
Maximum VIF	3.45	3.35	3.13	2.93	1.77	2.78	1.28	2.86	2.27	3.31	3.24	3.02	2.62	1.7	2.8	1.37	2.7	2.41

1.4.4 Robustness checks

In order to assess the robustness of our findings, we perform several additional tests, for which we discuss the most important findings hereafter. The output from those extra tests is thus not shown in a table, but can be obtained from the authors upon request. First, we analyse the results when adding additional variables to the models, i.e. *TOTAL RISK* and *INDUSTRY GROWTH*. *TOTAL RISK* is the standard deviation of monthly stock returns (months -60 to -1) before M&A announcement, while *INDUSTRY GROWTH* is the median of the one-year lagged sales growth rate in the acquirer's primary three-digit US SIC industry, constructed from all the consolidated financial statements available in the Amadeus database in the year before M&A announcement. Managers who overestimate their own capabilities could pursue M&As in unfamiliar industries. The incentives of managers and large shareholders to reduce their firm's risk may also depend on its current risk (Anderson and Reeb, 2003). After adding those extra variables, the tables in Appendix 1 reveal that our main conclusions do not change. Second, we leave out the fixed effect variables. As can be seen from Appendix 2, this has only a limited influence on the OLS regression results.

1.5 Discussion and conclusions

The primary objective of this paper was to investigate the potential mitigating impact of country-level corporate governance on the principal-principal conflict of interest in Europe. We do find evidence that ownership concentration has a negative effect on acquirer announcement returns, indicating that on average large acquirer blockholders are perceived to expropriate value from minority investors through M&As. Moreover, we do find evidence that minority appointment rights (including minority-shareholder representation on the board, rules allowing voting caps, a ban on dual-class shares) and minority decision rights (introduction of supermajority approval for major corporate decisions, such that minorities with a blocking minority are able to impede corporate policies that could harm their interests) have a significant impact on acquirer M&A announcement returns. Hence, this presence of strong country-level investor protection builds trust among stock market investors, who now know that they will not be expropriated, inviting policy makers to build strong minority appointment and decision rights. For the interaction effect between ownership concentration and country-level investor protection within our European M&A sample, we find evidence that country-level minority investor protection mitigates the potentially abused powers of large blockholders who decide to acquire a target from an unrelated industry, which suggests that country-level minority investor protection mitigates the potential expropriation behaviour by large blockholders. An avenue for future research would be to enlarge both the geographical scope, the years under discussion and other type of investment decisions, other than M&A decisions. Further research is needed to really decide what country-level factors drive the PP conflict of interest and are worth sharing to policy makers and minority stake investors. These findings further highlight the importance of good country-level corporate governance (more specifically: the protection of minority investors and the minority affiliation rights) in mitigating the effects of expropriation through industry-diversification by large blockholders. While we are able to locate two areas where this mediating effect may come from, we cannot find the specific legal driver for this mitigating effect. As such, future research should investigate the specific governance drivers that allow for these mitigating effects.

Chapter 2: Influence of Acquirer Boards on M&A Value Creation. Evidence from Continental Europe.

2.1 Introduction

"Over a span of 40 years, I have been on 19 public-company boards (excluding Berkshire's) and have interacted with perhaps 250 directors ... These people, decent and intelligent though they were, simply did not know enough about business and/or care enough about shareholders to question foolish acquisitions".

Buffett in 2002 to Berkshire's shareholders

The board of directors is a critical element in a firm's corporate governance, having two major supervisory functions: one is its monitoring and disciplining of senior management, which includes hiring, evaluating, and compensating the top management; the other is to advise senior management on important strategic decisions (Adams & Ferreira, 2007; Masulis *et al.*, 2012). After some major corporate governance scandals, such as the usage of accounting loopholes at Enron in the USA (2001), a real debt eight times higher than the reported debt at the Italian Parmalat (2005), and the concealment of large invoices at Olympus in Japan (2011), both the media and policy-shaping bodies have called for better board monitoring to improve board effectiveness in creating and preserving shareholder value. Thereby a key point of attention has been to encourage board diversity. Likewise, in the aftermath of the 2008-2009 financial crisis, the G20/OECD has argued that "in order to bring diversity of thought to board discussion, boards should consider if they collectively possess the right mix of background and competences." Also, the European Commission (2011) Green Paper states that "diversity in board members' profiles and backgrounds gives the board access to a range of values, views and competencies. Different lead0ership experiences, national or regional backgrounds or gender can provide an effective means to tackle 'group-thinking' and generate new ideas. More diversity leads to more discussion, more monitoring and more challenges in the boardroom. It potentially results in better decisions." Yet, academic research examining in detail how the size

and composition of boards influence major corporate decisions is largely missing to date.

Mergers and acquisitions (M&As) provide an interesting setting to examine the role of the board's supervisory functions, as they present complex corporate events, often with huge strategic impact, that require the board's approval as well as its advice and care (Harris & Shimizu, 2004; Schmidt, 2015). In practice, managers usually initiate and negotiate M&As, while the board has to endorse these (monitoring function). Correspondingly, the board may prevent the top management from engaging in transactions that destroy shareholder value. The board is also likely to set and influence the firm's external growth strategy (advisory function) and might occasionally even assist the management in suggesting potential takeover targets. As M&A announcements are clearly defined and, most often, surprising events for stock market investors, they can be used as an experimental setting to investigate the board's influence on shareholder value by means of an event study.

To date, only a few studies have examined how variables reflecting the size and composition of corporate boards impact M&A initiation, M&A acquisition prices, and M&A value creation, mostly in a US context. Masulis *et al.* (2007) investigate the effects of acquirer board structure on the acquirer cumulative abnormal return (CAR) for a sample of 3,333 M&A announcements by 1,268 different listed US firms during 1990–2003. They include board size, director independence, and CEO duality as board characteristics in their analyses. They find a significant negative impact of CEO duality on the acquirer CAR. However, board size and director independence are not significant (see also Masulis *et al.*, 2012; Schmidt, 2015). Levi *et al.* (2014) examine the influence of gender diversity in the board on bid initiation and the bid premium for 458 acquisitions by US listed firms between 1997 and 2009. They conclude that firms with more female directors are less likely to launch takeover bids (each additional female director reduces the number of bids by 7.6%) and if these firms enter into M&As, they pay lower premiums (a 15.4% smaller premium per extra female director). The authors explain their findings by a lower overconfidence among female directors. As to the role of foreign directors, Masulis *et al.* (2012) analyze a sample of 520 cross-border takeovers by US listed firms between 1998 and 2007, showing that acquirers

with foreign independent directors realize significantly higher announcement returns, particularly when the takeover target is headquartered in a country in which one of the acquirer's foreign directors resides. For a sample of 143 large M&As by US firms between 1981 and 1989, Harris and Shimizu (2004) show that directors with multiple board appointments have a significant positive impact on acquirer abnormal returns at deal announcement. However, not all research points in this same direction (see, for example, Ahn *et al.*, 2010; Fich & Shivdasani, 2006; Masulis *et al.*, 2012).

Our paper contributes to the limited and fragmented literature on the role of the board of directors in M&As by analyzing and interpreting the effects of various board characteristics on acquirer shareholder value in a Continental European M&A context. As many listed companies in Continental Europe are closely held by an individual or a family (e.g., Desender *et al.*, 2013; Enriques & Volpin, 2007), the emergence of a principal-agent conflict of interest is less likely than in the Anglo-Saxon corporate world. As such, CEO duality does not necessarily hint at entrenched managers who no longer pursue the best interests of the company and its shareholders. Indeed, those combined CEO-chairmen often prove either the firm's founder and/or a member of the controlling family (see also Defrancq *et al.*, 2016). In line with the above arguments, empirical research on M&As in Continental Europe has shown that acquirer shareholder announcement returns are significantly positive on average (e.g., Craninckx & Huyghebaert, 2011; Martynova & Renneboog, 2011).[6] Those findings contrast with the results found by research on Anglo-American deals, demonstrating a non-significant acquirer CAR at best. Nonetheless, as controlling shareholders could also abuse their power to expropriate value from the firm's minority investors in a context with poor investor protection, a firm's independent directors may be able to identify and ultimately block the M&As that do not add to overall firm and shareholder value. A similar rationale might apply to the firm's directors with multiple board appointments, who could rely upon their knowledge and network to better understand the strategic

[6] For their sample of 2,419 intra-European takeovers during 1993–2001, with both acquirers and targets being publicly listed firms, Martynova and Renneboog (2011) report a statistically significant positive acquirer abnormal return of 0.72% over the [-1,+1] event window (which is significant at the 1% level).

rationale for doing particular deals and rejecting others, in order to create and preserve shareholder value. Finally, Continental Europe is interesting because, despite all EU efforts to converge, the business landscape in many industries has kept a notable regional dimension, with a non-trivial role of local habits and sometimes even local rules and standards. Over time, convergence in the EU has indeed been hampered by cultural differences and language barriers, which could not be addressed through legislation. Hence, when directors with a different national origin are appointed to a board, they likely may introduce fresh ideas and bring in their specific local expertise, and, as such, help firms identify highly valuable M&As. Moreover, as these foreign directors are less likely to be well-acquainted with the firm's management and, if any, the firm's controlling shareholder, they may find it easier to express an independent opinion, thereby safeguarding the best interests of the company and its shareholders.

For a sample of 2,230 M&As initiated by listed firms with corporate headquarters in Continental Europe, we detect no consistent positive or negative relation between board size and acquirer shareholder abnormal returns at deal announcement. In addition, we find mixed evidence as to a beneficial impact of board diversity on M&A value creation. Indeed, our results provide some indication that gender and age diversity are positively associated with M&A abnormal returns at deal notification. In line with the existing literature, this result might reflect that women pay more attention to monitoring and that groups more heterogeneous in terms of age offer more valuable advice to acquiring firms. However, both variables are only weakly significant, in only some of the models. Surprisingly, a larger fraction of foreign directors on the board negatively affects M&A value creation. This relation appears to be driven by the purely domestic takeovers in our sample. It is consistent with the idea that those foreign directors encounter more difficulties in gathering the information needed to scrutinize a planned transaction and closely monitor the management. Yet, as acquirers expand through cross-border takeovers, this negative effect of foreign directors completely vanishes. The latter outcome thus indicates that foreign directors are as good as domestic ones in evaluating cross-border deals or that their negative monitoring effect is offset by a positive advisory effect. In general, the above findings incite us to question the recent and *one-size-fits-all* call for more diversity in board composition. We further find that the

proportion of directors with multiple board appointments and the fraction of independent directors are significantly positively associated with M&A value creation. Director experience, networks, and reputation thus prove highly effective deterrents against M&As that do not maximize shareholder value. Interestingly, while the influence of independent directors does not seem to depend upon the complexity of the deal, we do find that directors with multiple directorships are especially valuable in cross-border and industry-diversifying M&As. Finally, CEO duality is only significantly negatively related to M&A announcement returns when the takeover is industry-diversifying in nature and when the acquirer is not controlled by an individual or a family. Lone founders or family representatives who combine the positions of CEO and board chairman are less likely to pursue objectives that destroy shareholder value, as this could jeopardize their control of the company and/or the family's socioemotional wealth (see also Aktas *et al.*, 2016; Defrancq *et al.*, 2016). This idea could therefore explain the lack of a wide-ranging negative CEO-duality effect in Continental European M&As, as opposed to the damaging entrenchment effect of combined CEO-chairmen found in Anglo-Saxon M&As (e.g., Hayward & Hambrick, 1997; Masulis *et al.*, 2007). Overall, the above relations prove robust to alternative model specifications, in which the effects are incorporated in a non-linear way, to alternative variable measurements, and to adding extra control variables.

The remainder of this paper is organized as follows. First, we present an overview of the relevant literature and develop our hypotheses, starting from the idea that board diversity adds to corporate value, in line with the view of the media and policy-shaping bodies. Nonetheless, we also wish to acknowledge that counterarguments exist, claiming that diversity may indirectly affect firm performance through weaker social integration (Harrison *et al.*, 2002). We thereafter introduce the sample and variable measurements, and report and discuss the results from our empirical analyses. Finally, the last section of the paper offers our conclusions.

2.2 Literature Review and hypotheses development

The theoretical framework underlying our research is borrowed from agency theory: the agent (management) is expected to act in the best interests of the principal (the firm's shareholders) when directing a company (Muth & Donaldson, 1998); and the board has both a monitoring and an advising role in its appointment. To ensure that the agent maximizes the value of the company, the board of directors should establish an overall framework and set the boundaries within which the management can operate, thereby discouraging managers to extract private benefits. Also, it should monitor the management on behalf of the firm's shareholders to mitigate agency problems (Jensen & Meckling, 1976). Besides, the board should facilitate an effective management process by providing valuable counsel, particularly on strategic issues (e.g., Fama & Jensen, 1983).

Mergers and acquisitions present major and complex strategic decisions that require the board's approval as well as its advice/care, having potentially large effects on shareholder value (Harris & Shimizu, 2004; Schmidt, 2015). Harris and Shimizu (2004) argue that an acquirer's ability to create value from M&As is a function of many factors (e.g., fit of the target firm, timing of the transaction, acquisition price, the payment and financing of the deal) and complacent and/or uninvolved directors can undermine the board decision-making process and board effectiveness. In the following sections, we start from the monitoring and advisory functions of the board to develop our hypotheses as to how board size, directors' diversity in terms of gender, national origin, and age,[7] directors' multiple board appointments and independence, and CEO duality could influence a firm's shareholder value from doing M&As.

Board size. The role of board size has long been on the research agenda (e.g., Jensen, 1993; Lipton & Lorsch, 1992; Yermack, 1996). A major advantage of larger boards is their access to a greater collective body of experience and information, including but

[7] Ethnic diversity is often included in studies on the role of board diversity. Yet, ethnic diversity is rarely present in the boards of listed firms in Continental Europe (see also Sing, 2007; Upadhyay & Zeng, 2014). As such, we chose not to integrate this diversity aspect into our analyses.

not limited to product markets, technology, and regulation. As such, larger boards may draw upon their extensive source of knowledge and skills to challenge senior management. Besides, larger boards have a greater number of observers, who can then also be assigned to the various board committees (Klein, 2002; Lipton & Lorsch, 1992). Consequently, the number of committee assignments per director can decline, which may allow directors to execute their duties more thoroughly. Moreover, larger boards provide more opportunities to enhance board diversity, including director gender, national origin, age, and ethnicity (e.g., Dalton & Dalton, 2005). Accordingly, larger boards could also be better placed to provide highly qualitative strategic counsel to management, potentially resulting in better M&A decisions.

In contrast, others have argued that the benefits of larger boards, i.e. a better capacity for monitoring and strategic counsel, are outweighed by their costs, such as less candid board discussions, slower decision-making, and biases against risk-taking (e.g., Guest, 2009; Yermack, 1996). Investigating 452 large US industrial corporations between 1984 and 1991, Yermack (1996) detects an inverse relation between board size and Tobin's Q, from which he concludes that smaller boards are more effective. Guest (2009), who examines the role of board size for a sample of 2,746 listed firms in the UK during 1981–2002, finds a strong negative relation between board size and firm profitability (ROA), Tobin's Q, and stock market returns. Besides, Cheng (2008), studying 1,252 US listed firms between 1996 and 2004, concludes that firms with a larger board have a lower variability in corporate performance, consistent with the view that larger-sized boards need to make more compromises to reach a consensus. Consequently, the decisions of larger boards are less extreme, resulting in less volatile company results. For M&A decisions, this could imply that larger boards are less willing to engage in highly valuable, but risky takeovers that may fundamentally affect a firm's strategy and market positioning.

Based upon the above arguments, we put forward the following and opposite conjectures as to the relation between board size and M&A value creation:

> *Hypothesis 1a. Acquirers with a larger number of directors on their board are associated with higher M&A announcement returns.*
> *Hypothesis 1b. Acquirers with a larger number of directors on their board are associated with lower M&A announcement returns.*

Gender diversity. The position of female board members has received a lot of attention in recent years, as women have been attributed with better monitoring capabilities. Croson and Gneezy (2009) review gender differences and emphasize that women are more risk-averse than men, which can be explained by their different emotional reactions to risky situations (see also Loewenstein *et al.*, 2001). Arch (1993) contends that females interpret risky situations as threats encouraging avoidance, while males are more likely to see these as a challenge, calling for participation. Besides, when faced with uncertainties, women show less confidence to succeed than men, also reducing their odds of overconfidence (Lundeberg *et al.*, 2000). Huang and Kisgen (2013) examine 1,866 US listed firms, providing evidence that male executives – they focus on the CEO and CFO – initiate more acquisitions and issue debt more often than female executives. Those results thus support the idea that females exhibit less overconfidence in major corporate decisions than men. In addition, the authors show that female executives place wider bounds on earnings estimates and are more likely to exercise their stock options early. In the accounting literature, Barua *et al.* (2010) conclude that female CFOs are associated with higher-quality earnings, based on a sample of 1,559 US listed firms. Levi *et al.* (2014) find that firms with more female directors are less likely to make acquisitions and, once these firms enter into M&As, pay lower bid premiums, which again indicates that females exhibit lower overconfidence. Besides, Adams and Ferreira (2009) infer that gender-diverse boards are more likely to hold the CEO accountable for poor stock-price performance. For a sample of 1,939 US listed firms between 1996 and 2003, they indeed find that CEO turnover is more sensitive to stock returns in firms with relatively more women on the board, hinting at stronger board monitoring in such firms. Hence, boards with a larger fraction of female directors could play a more decisive role in preventing value-destroying acquisitions initiated by a firm's management, either because of self-dealing behavior or hubris. We therefore postulate the following hypothesis:

> *Hypothesis 2. Acquirers with a larger fraction of female directors are associated with higher M&A announcement returns.*

Nationality diversity. Mi Choi *et al.* (2012) point out that foreigners could be better monitors since they are not part of the domestic cronyism that exists through regionalism, school relations, and kinship with the firm's management and/or controlling shareholder. So, by involving foreign directors, firms may subject themselves to stricter information and monitoring requirements, thereby strengthening their commitment to protecting the best interests of the firm's minority investors. Moreover, these foreign directors may introduce other opinions and perspectives in the boardroom (Ararat *et al.*, 2015). Ujunwa (2012) further argues that by including foreigners in the board-selection process, firms increase the pool of highly-qualified director profiles to choose from. For a sample of 896 South Korean listed firms during 2004–2007, Mi Choi *et al.* (2012) find that the presence of foreign board members has a significant positive influence on a firm's Tobin's Q. Oxelheim and Randøy (2003) reach a similar conclusion for 225 firms in Norway and Sweden between 1996 and 1998. Finally, Masulis *et al.* (2012) show that acquirers with foreign independent directors realize significantly higher M&A announcement returns in cross-border takeovers, particularly when the takeover target is from a foreign director's home region. Based upon the above diversity-related arguments, we put forward the following hypothesis:

> *Hypothesis 3. Acquirers with a larger fraction of foreign directors are associated with higher M&A announcement returns.*

Age diversity. Grund and Westergård-Nielsen (2007) and Wiersema and Bantel (1992), among others, argue that groups more heterogeneous in terms of age are more productive and consider more perspectives as to a topic/problem. Age diversity within the board could thus prevent group-thinking and lead to a more effective board by balancing the enthusiasm, energy, and risk appetite of younger directors with the experience, caution, and risk aversion of older ones (Ararat *et al.*, 2015). Younger people are on average more familiar with new technologies and generate more novel ideas, whereas older persons usually have developed stronger networks and a better knowledge about intra-firm structures and relevant markets (Grund & Westergård-Nielsen, 2007). Most often, both kinds of human capital are needed to achieve superior performance. Pelled *et al.* (1999) analyze 45 teams from three firms and identify a

positive correlation between age heterogeneity and group performance as evaluated by the team manager. Likewise, Kilduff *et al.* (2000) point at a significant positive effect of age diversity on firm performance, using data on 159 managers in European firms.[8] So, we formulate the following hypothesis:

> *Hypothesis 4. Acquirers with a larger age dispersion among directors are associated with higher M&A announcement returns.*

Number of directorships. Directors may not always be good supervisors of a firm's management, particularly when they are too busy. In this respect, Ahn *et al.* (2010) argue that directors with too many board appointments could be so overloaded that they cannot act as effective monitors because of their time constraints and limited attention capabilities. Consistent with this view, Core *et al.* (1999) show for a sample of 205 US listed firms between 1982 and 1984 that the fraction of directors with more than three board seats is positively associated with measures of excess CEO compensation. Likewise, Fich and Shivdasani (2006) find for 508 US listed firms during 1989–1995 that boards with a majority of directors having three or more board appointments are associated with a lower ROA, a lower market-to-book ratio, and a smaller sensitivity of CEO turnover to firm performance. Accordingly, over-boarded directors may prove unable to curb managerial agency problems in M&A decisions. For a sample of 1,207 M&As in the USA during 1998–2003, Ahn *et al.* (2010) demonstrate that acquirers with a higher average number of outside board seats held by each director are associated with lower acquirer shareholder abnormal returns surrounding deal announcement.

In contrast, Fama and Jensen (1983) argue that the number of board appointments could proxy for director knowledge and expertise, as directors with multiple board seats likely have developed more extensive experience in monitoring and advising companies. In addition, Ahn *et al.* (2010) contend that the number of directorships may act as a signal of director quality, as only highly effective board members are offered multiple directorships. Besides, directors with multiple board seats could generate more benefits

[8] Kilduff *et al.* (2000) rely on a marketing simulation (Markstrat) to investigate the influence of demographic and cognitive team diversity on firm performance, which is measured as net market contribution (in dollars) and market share (in percentage terms).

for a firm, given that such directors likely are well connected; hence, they could exploit their network to access strategic resources, customers, and suppliers. Moreover, these well-connected directors likely are also highly motivated to be vigilant and work hard, because of their earlier investments in establishing their reputation as decision experts. In line with the above arguments, firms announcing their first-time appointment of a 'busy' director experience significantly positive abnormal returns (e.g., Ferris *et al.*, 2003). Likewise, Di Pietra *et al.* (2008) identify a significant positive effect of the fraction of 'busy' directors on the market performance of 77 Italian firms. Those findings are thus consistent with the view that directors serving on many boards tend to be well connected, with reputable human capital at stake. The above findings therefore suggest that directors with multiple board appointments could be better monitors and advisors for acquiring companies.

As the literature purports opposite arguments and results as regards the relation between directors with multiple board appointments and shareholder value, we postulate the following two alternative conjectures:

> *Hypothesis 5a. Acquirers with a larger fraction of directors with multiple appointments are associated with lower M&A announcement returns.*
> *Hypothesis 5b. Acquirers with a larger fraction of directors with multiple appointments are associated with higher M&A announcement returns.*

Independent directors. The literature considers boards with a larger fraction of independent directors to have better monitoring capabilities (e.g., Bertoni *et al.*, 2014; Ferreira *et al.*, 2011). The idea is that those independent directors, who do not have a relationship with the company or its management, can better withstand the potentially colored information presented by the senior management and face less pressure from the firm's various stakeholders. In this respect, Dechow *et al.* (1996) find that the fraction of independent directors is inversely related to the likelihood of financial statement fraud. Besides, Fama and Jensen (1983) emphasize that reputation concerns and a desire to obtain future board positions ensure that independent directors are more effective monitors. Rosenstein and Wyatt (1990), who conduct an event study around 1,251 independent director appointments in US listed firms between 1981 and 1985, detect a significant positive stock price reaction. In a Continental European context,

characterized by concentrated ownership, we expect those independent board members to play a vital role in directing a company's focus on firm value, to the benefit of *all* shareholders. Independent directors could indeed provide a valuable counterbalance vis-à-vis any self-dealing behavior by the firm's management or controlling shareholder, who may rely on M&As to pursue their own goals. In this respect, the M&A literature has pointed out that managers as well as large family shareholders may use their power to engage in industry-diversifying takeovers (Aktas *et al.*, 2016; Amihud & Lev, 1981; Defrancq *et al.*, 2016; Miller *et al.*, 2010). We therefore put forward the following hypothesis as to the relation between acquirer independent directors and M&A value creation:

> *Hypothesis 6. Acquirers with a larger fraction of independent directors are associated with higher M&A announcement returns.*

CEO duality. One person combining the positions of CEO and board chairman is often seen as an indication of weak corporate governance, since both a firm's management and its supervision are in the hands of the same person. As argued by Jensen (1993), CEOs who are also their board's chairman cannot objectively judge their own decisions and performance. This duality may also allow those CEOs to advance and endorse their personal preferences, without proper monitoring (Rhoades *et al.*, 2001). For their sample of 106 large takeovers in the USA, Hayward and Hambrick (1997) find that their three proxies for CEO hubris (i.e. media praise for the CEO, CEO relative compensation, and recent acquirer performance) are highly associated with the size of the takeover premium paid in subsequent M&As. Those relations are further strengthened when thorough board monitoring is less likely, such as when the CEO is also the board chairman and when the board has a high proportion of inside directors. Likewise, Masulis *et al.* (2007) find a significant negative effect of CEO duality on the acquirer CAR for their sample of US M&As in the 1990–2003 time frame. Correspondingly, the quality of takeovers pursued by firms with such powerful CEOs is perceived to be lower. The above arguments result in the following conjecture:

> *Hypothesis 7. Acquirers whose functions of CEO and board chairman are combined by the same person are associated with lower M&A announcement returns.*

2.3 Sample, variables and summary statistics

2.3.1 Sample

Our sample includes all the M&As covered by the Zephyr database of Bureau Van Dijk and initiated by listed acquiring firms with corporate headquarters in Continental Europe and announced between January 1, 2007 and April 30, 2013.[9] We only keep the deals for which the acquirer held a stake less than 50% before deal announcement and obtained majority control of the target firm as a result of the transaction. The above criteria generate an initial sample of 9,710 M&As. We next remove the acquirers active in the financial services industry (US SIC code 6), as those firms are often subject to specific regulations and as their annual reports are usually compiled under different accounting standards (1,888 deals). Finally, we only retain M&As for which the acquirer's annual reports are available in the Amadeus database and its stock price information can be retrieved from Datastream. The above criteria result in a final sample of 2,230 M&As.

2.3.2 Variable Measurements

In this section, we first introduce the event study methodology used to capture the acquirer shareholder abnormal return upon deal announcement. Also, we provide more details on the board-data collection process and our measurement of the test variables.

To capture the value creation in each transaction from the point of view of acquirer shareholders, we make use of the event study methodology. Research in corporate finance typically posits that stock market investors impound the economic gains from synergies and/or a change in corporate control in the stock price of the combining companies at deal notification. The most important advantage of the event study methodology is that it is forward-looking, implicitly accounting for the present value of all future M&A gains. Also, it can be manipulated less easily by managers than

[9] The Zephyr database is commercialized by Bureau van Dijk and contains information on more than one million transactions worldwide, with pan-European deals dating back to 1997. Zephyr provides information on several firm (e.g., name, industry, country, etc.) and deal (e.g., deal status, hostile bid, contested bid, etc.) characteristics. Furthermore, it can be linked easily to the Amadeus database (also Bureau Van Dijk), containing the annual accounts and board data of European companies. Compared to Thomson Financial and Mergerstat, Zephyr has a larger coverage of European and smaller transactions.

accounting-based performance metrics and it is unrelated to the quality of deal implementation, i.e. post-M&A integration. To capture the perceived value creation in each M&A, we calculate acquirer abnormal returns surrounding the deal announcement date.[10] Acquirer abnormal returns are computed as the difference between realized returns and expected returns. Expected returns are obtained from the market model, which is estimated over a clean period from 250 to 51 days prior to the event date (day 0):

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{jt} is the realized return on the stock of company *j* on day *t*, R_{mt} is the realized return on the MSCI Europe index on day *t*, α_j is the intercept, and β_j is a measure of firm *j*'s systematic risk.

The abnormal returns are summed over the event window $[T_1, T_2]$ to produce a cumulative abnormal return (CAR). We use the [-1,+1] window in our main test, but also rely on other event windows to account for a potential stock price run-up before deal notification (e.g., Craninckx & Huyghebaert, 2011; Martynova & Renneboog, 2011). We examine the statistical significance of the average acquirer CAR by means of the test statistic developed by Dodd and Warner (1983). The significance of the median CAR is assessed by means of the non-parametric Corrado test. For each security *i*, the standardized abnormal return on day *t* (SAR_{it}) is computed by dividing the abnormal return on that date (AR_{it}) by its standard deviation (s_{it}). The standardized CAR ($SCAR_{it}$) over the event window $[T_1, T_2]$ is then calculated as follows:

$$SCAR_i = \sum_{t=T_1}^{T_2} SAR_{it} \frac{1}{\sqrt{T_2 - T_1 + 1}}$$

For a sample of *N* events, the test statistic (t) that examines the null hypothesis of a zero cumulative abnormal return is obtained as:

[10] We do not have any information on M&A transactions that were proposed to the board but were disapproved by it, as the data on those proposed deals are not available in Zephyr. Hence, in our dataset, we cannot observe the strongest expression of the board's monitoring function, that is the disapproval of deals perceived to destroy shareholder value.

$$t = \sqrt{N}\frac{1}{N}\sum_{i=1}^{N} SCAR_i$$

To collect the board data, we first access the yearly DVD releases of Amadeus. Since the time window of our M&A sample spans from 2007 to 2013, we download the acquirer board data over the period 2006–2012. So, for each company-year combination in the 2006–2012 time frame, we collect the data on the firm's board members, including information on the directors' given name, last name, company function or title, gender, nationality, and date of birth. In European countries with a two-tier board structure, like in Austria, Germany and Poland, we focus on the effects of the supervisory board, as the executive board is mostly responsible for the firm's day-to-day management. While some information, i.e. first name, last name, and function is available in Amadeus as from 2006 onwards, other director characteristics such as gender, nationality, and date of birth could only be retrieved for some specific years. As these attributes hardly change over time, we complete missing values by consulting the Amadeus DVDs in years for which those director characteristics are reported. Besides, to further complete and clean the dataset, we manually collect director characteristics from the companies' annual reports and websites, if disclosed. Unfortunately, for a number of board attributes, like the fraction of independent directors and CEO duality, the number of missing values in our dataset remains quite large.

Table 2.1 provides more details about how we subsequently measure the explanatory variables in our analyses, together with the hypothesized impact of the test variables on M&A value creation. Unless stated otherwise, the explanatory variables are measured at fiscal year-end before the M&A announcement date in order to avoid reverse-causality concerns.

Table 2.1: Dependent and Explanatory Variables

This table shows the definition of the dependent and explanatory variables, and the hypothesized effect of the explanatory variables on acquirer shareholder wealth effects around deal announcement.

Dependent variable	**Definition**	
CAR	Cumulative abnormal return for acquirer shareholders over the [-1,+1] event window, with day 0 being the M&A announcement date	
Explanatory variables		**CAR**
Acquirer board characteristics		
BOARD SIZE	Natural log of the number of directors on the acquirer board	+/–
GENDER DIVERSITY	Fraction of acquirer board members that are female directors	+
NATIONALITY DIVERSITY	Fraction of acquirer board members that have a nationality that differs from the country in which the acquirer has its corporate headquarters	+
AGE DIVERSITY	Standard deviation of the age of the acquirer board members	+
AVERAGE DIRECTOR AGE	Average age of the acquirer board members	
MULTIPLE DIRECTORSHIPS	Fraction of acquirer board members that have at least three directorships	+/–
INDEPENDENCE	Fraction of acquirer board members that are independent, i.e. non-executive directors. An independent director is expected to act independently from the firm's management and controlling shareholder (European Commission, 2005 and 2007).	+
CEO DUALITY	Dummy = 1 if the CEO is also the chairman of the acquirer board, 0 otherwise	–
Control variables		
BLOCK	Fraction of acquirer voting rights controlled by the firm's largest ultimate shareholder	
CROSS-BORDER	Dummy = 1 if the country in which the acquirer has its corporate headquarters is different from that of the target firm, 0 otherwise	
DIVERSIFICATION	Dummy = 1 if none of the three-digit US SIC industries in which the acquirer is active equals one of the three-digit US SIC industries of the target firm, 0 otherwise	
RELATIVE DEAL SIZE	Ratio of deal value to acquirer market value of equity + book value of financial debt	
STOCK PAYMENT	Dummy = 1 if the M&A was paid at least in part in acquirer shares, 0 otherwise	
TARGET LISTED	Dummy = 1 if the target firm is listed on a stock exchange, 0 otherwise	
CASH RATIO	Acquirer cash and cash equivalents / total assets	
LEVERAGE	Acquirer long-term debt / total assets	
M/B	Market-to-book ratio: market value of the acquirer ordinary (common) equity at the last day of the year prior to the M&A announcement date divided by the book value of the acquirer ordinary (common) equity	
FIRM SIZE	Natural log of the acquirer market capitalization (in thousands euro) at the last day of the year prior to the M&A announcement date	

2.3.3 Summary Statistics

Table 2.2 displays the yearly, industry, and geographical distribution for the full sample (Panel A) as well as for the subsamples of domestic versus cross-border takeovers (Panel B), and industry-related versus industry-diversifying M&As (Panel C). The 2,230 sample deals were initiated by 835 different acquirers. Table 2.2, Panel A reveals that every sample year has a non-trivial number of M&As, with most deals occurring in the year 2007 (22.4% of the sample). The acquirers are mostly active in personal and business services (26.1%) and in manufacturing (25.9%). The geographical distribution of the acquirers is highly dispersed, with a considerable fraction of acquirers domiciled in France (27.9%), Sweden (17.5%), and Germany (15.6%). Panel B shows that 1,203 sample deals (54.0%) are cross-border in nature. Acquirers active in manufacturing (66.9%) and health, legal and social services (64.9%) are more likely to engage in cross-border M&As. Finally, Panel C points out that 900 M&As (40.4%) are targeting a firm that shares no three-digit US SIC code with the acquirer. The fraction of industry-diversifying deals is considerably larger for firms active in wholesale (56.7%), mining (51.3%), and manufacturing (51.0%), while smaller for firms in personal and business services (20.5%).

Table 2.3 reports the average and median acquirer CAR over different event windows. The largest acquirer stock price reaction takes place in the [-1,+1] window, with a significant abnormal price jump of 0.82% on average in the full sample ($p < 0.01$). Over the [-5,+5] window, acquirer shareholders realize a significant average CAR of 0.77% ($p < 0.01$). This significant positive CAR also arises over the [-35,+5] window, averaging to 0.70% ($p < 0.05$). The median acquirer CAR is lower, yet still significantly different from zero over the [-1,+1] and [-5,+5] window ($p < 0.01$). Arguably, the above numbers point out that stock market investors perceive M&As by listed acquirers in Continental Europe during the 2007–2013 time frame to create shareholder value on average (see also Craninckx & Huyghebaert, 2011; Martynova & Renneboog, 2011).

When comparing the subsamples of domestic and cross-border transactions in Panel B of Table 3, we note that domestic takeovers in general produce a somewhat larger CAR, yet only significantly so over the [-5,+5] event window ($p < 10\%$). Finally, Panel C of Table 2.3 reveals that the acquirer CAR is not significantly different across the industry-related and industry-diversifying M&As in our sample.

Table 2.2: Time, Industry and Geographical Distribution of the Sample

This table displays the absolute and percentage distribution of transaction year, acquirer industry, and acquirer country for the full sample (Panel A), for the subsamples of domestic versus cross-border takeovers (Panel B), and for the subsamples of industry-related versus industry-diversifying takeovers (Panel C). All M&As were initiated by listed acquiring firms with corporate headquarters in Continental Europe and announced between January 1, 2007 and April 30, 2013. The acquirer held a stake less than 50% before deal announcement and obtained majority control of the target firm as a result.

	Panel A: Full sample		Panel B: Domestic versus cross-border transactions				Panel C: Industry-related versus industry-diversifying transactions			
			Domestic transactions		Cross-border transactions		Industry-related transactions		Industry-diversifying transactions	
	N	Col%	N	Row%	N	Row%	N	Row%	N	Row%
Year of announcement										
2007	500	22.42%	239	47.80%	261	52.20%	302	60.40%	198	39.60%
2008	424	19.01%	181	42.69%	243	57.31%	257	60.61%	167	39.39%
2009	237	10.63%	111	46.84%	126	53.16%	133	56.12%	104	43.88%
2010	395	17.71%	208	52.66%	187	47.34%	233	58.99%	162	41.01%
2011	337	15.11%	146	43.32%	191	56.68%	209	62.02%	128	37.98%
2012	171	7.67%	72	42.11%	99	57.89%	97	56.73%	74	43.27%
2013	166	7.44%	70	42.17%	96	57.83%	99	59.64%	67	40.36%
Acquirer industry										
SIC 1: Mining	152	6.82%	91	59.87%	61	40.13%	74	48.68%	78	51.32%
SIC 2: Food	271	12.15%	125	46.13%	146	53.87%	153	56.46%	118	43.54%
SIC 3: Manufacturing	577	25.87%	191	33.10%	386	66.90%	283	49.05%	294	50.95%
SIC 4: Transportation	223	10.00%	141	63.23%	82	36.77%	122	54.71%	101	45.29%
SIC 5: Wholesale	194	8.70%	106	54.64%	88	45.36%	84	43.30%	110	56.70%
SIC 7: Personal and business services	582	26.10%	290	49.83%	292	50.17%	463	79.55%	119	20.45%
SIC 8: Health, legal and social services	225	10.09%	79	35.11%	146	64.89%	145	64.44%	80	35.56%
SIC 9: Public Administration	6	0.27%	4	66.67%	2	33.33%	6	100.00%	0	0.00%
Acquirer country										
AT: Austria	46	2.06%	12	26.09%	34	73.91%	22	47.83%	24	52.17%
BE: Belgium	107	4.80%	42	39.25%	65	60.75%	68	63.55%	39	36.45%
BG: Bulgaria	8	0.36%	6	75.00%	2	25.00%	3	37.50%	5	62.50%
CZ: Czech Republic	5	0.22%	3	60.00%	2	40.00%	1	20.00%	4	80.00%
DE: Germany	348	15.61%	177	50.86%	171	49.14%	190	54.60%	158	45.40%
DK: Denmark	9	0.40%	3	33.33%	6	66.67%	7	77.78%	2	22.22%
EE: Estonia	7	0.31%	4	57.14%	3	42.86%	1	14.29%	6	85.71%
ES: Spain	111	4.98%	55	49.55%	56	50.45%	73	65.77%	38	34.23%
FI: Finland	139	6.23%	47	33.81%	92	66.19%	93	66.91%	46	33.09%
FR: France	621	27.85%	306	49.28%	315	50.72%	384	61.84%	237	38.16%
GR: Greece	1	0.04%	0	0.00%	1	100.00%	0	0.00%	1	100.00%
HU: Hungary	1	0.04%	0	0.00%	1	100.00%	0	0.00%	1	100.00%
IT: Italy	134	6.01%	74	55.22%	60	44.78%	74	55.22%	60	44.78%
LT: Lithuania	1	0.04%	1	100.00%	0	0.00%	0	0.00%	1	100.00%
LU: Luxembourg	1	0.04%	0	0.00%	1	100.00%	1	100.00%	0	0.00%
LV: Latvia	2	0.09%	2	100.00%	0	0.00%	2	100.00%	0	0.00%
NL: Netherlands	170	7.62%	51	30.00%	119	70.00%	112	65.88%	58	34.12%
PL: Poland	78	3.50%	58	74.36%	20	25.64%	38	48.72%	40	51.28%
PT: Portugal	31	1.39%	24	77.42%	7	22.58%	17	54.84%	14	45.16%
RO: Romania	1	0.04%	1	100.00%	0	0.00%	0	0.00%	1	100.00%
SE: Sweden	391	17.53%	151	38.62%	240	61.38%	238	60.87%	153	39.13%
SI: Slovenia	18	0.81%	10	55.56%	8	44.44%	6	33.33%	12	66.67%
Total	2,230	100.00%	1,027	46.05%	1,203	53.95%	1,330	59.64%	900	40.36%

Table 2.3: Acquirer CARs over Various Event Windows

This table presents the average and median acquirer CAR for different event windows. The significance of the average CAR is tested by means of the Dodd and Warner (1983) parametric test. The significance of the median CAR is tested by means of the non-parametric Corrado test. Results are displayed for the full sample (Panel A) and for the subsamples of domestic versus cross-border transactions (Panel B) and for the subsamples of industry-related versus industry-diversifying transactions (Panel C). The CARs that are significantly different from zero are highlighted in bold. CARs significant at the 10%, 5%, and 1% level are marked with *, ** and ***, respectively.

	Event window		
	[-1,+1]	[-5,+5]	[-35,+5]
Panel A: Full sample			
Averages			
CAR%	**0.8246*** **	**0.7719*** **	**0.6998** **
p-value	**0.0000**	**0.0001**	**0.0301**
Medians			
CAR%	**0.4322*** **	**0.4272*** **	0.2218
p-value	**0.0000**	**0.0001**	0.1945
Panel B: Domestic versus cross-border transactions			
Domestic transactions			
Averages			
CAR%	**0.9625*** **	**1.1741*** **	**1.0815** **
p-value	**0.0000**	**0.0014**	**0.0409**
Cross-border transactions			
Averages			
CAR%	**0.7071*** **	**0.4290** **	0.3744
p-value	**0.0000**	**0.0356**	0.3402
Comparison of domestic and cross-border transactions (difference in means)			
Averages			
ΔCAR%	0.2554	**0.7451***	0.7071
p-value	0.2419	**0.0654**	0.2745
Panel C: Industry-related versus industry-diversifying transactions			
Industry-related transactions			
Averages			
CAR%	**0.9369*** **	**0.5244** **	0.3306
p-value	**0.0000**	**0.0269**	0.4087
Industry-diversifying transactions			
Averages			
CAR%	**0.6577*** **	**1.1397*** **	**1.2487** **
p-value	**0.0002**	**0.0015**	**0.0204**
Comparison of industry-related and industry-diversifying transactions (difference in means)			
Averages			
ΔCAR%	0.2792	-0.6152	-0.9181
p-value	0.2081	0.1345	0.1627

Figure 2.1 depicts the average acquirer CAR surrounding the deal announcement date. Before deal notification, it is slightly negative, yet close to zero. At M&A announcement, the average acquirer CAR exhibits a significant upward jump. This pattern is highly comparable to that found by Martynova and Renneboog (2011, p. 232), who analyze 2,419 M&As taking place in Europe between 1993 and 2001.

Figure 2.1: M&A Value Creation of Acquirer Shareholders at M&A Announcement

Figure 2.1 shows the cumulative abnormal return (*CAR*) for acquirer shareholders to the announcement of an M&A from 35 days before to 5 days after the deal announcement date (day 0). The benchmark used in the market model is the MSCI Europe index; the model parameters are estimated over 200 days, starting 250 days before the event date.

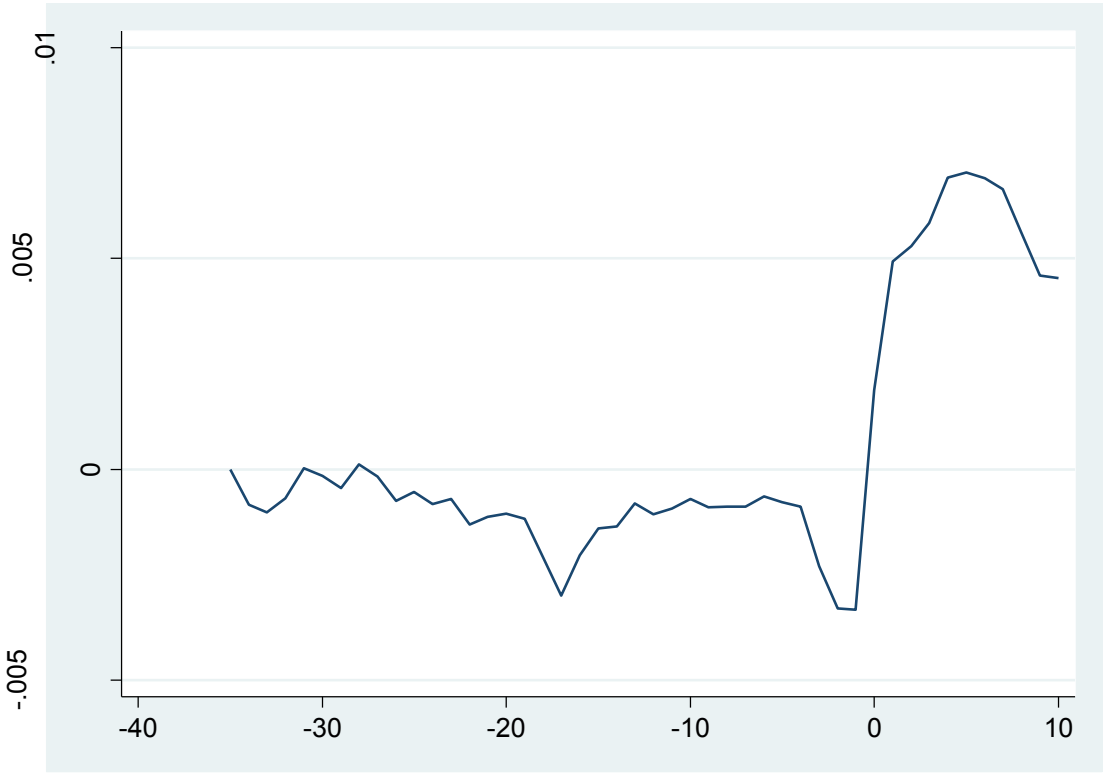

Table 2.4 reports summary statistics for all explanatory variables. To limit the influence of outliers, all variables – except dummy variables – are winsorized at 1%–99%. Panel A of Table 2.4 shows that the average *BOARD SIZE* is 2.1, which corresponds to eight directors. This number differs significantly across the firms pursuing domestic (2.0) and cross-border (2.2) transactions. However, it is comparable across the acquirers making industry-related and industry-diversifying M&As, as shown in Panel C of Table 2.4. As regards board composition, we note that 10.5% of acquirer directors in Continental Europe are females, while only 2.2% have another nationality than that of the acquirer. Panel B reveals that firms pursuing cross-border M&As have a significantly larger fraction of female board members than firms engaging in purely domestic transactions (11.3% vs. 9.9%). The standard deviation of director age equals 8.7 years on average, while the average acquirer director is 57.2 years old. The directors of firms engaging in cross-border takeovers are significantly older (57.7 years) than the directors of firms making purely domestic deals (56.5 years). On average, 3.2% of acquirer directors hold three or more board positions, a phenomenon that is more prevalent among the directors in cross-border M&As than among the directors in domestic M&As (3.9% vs. 2.4%). For the subsample of acquirers with the necessary data, we observe that the average board has 54.2% of independent directors.[11] Finally, the positions of CEO and board chairman are combined by the same person in 17.1% of sample transactions. This percentage does not depend upon whether the deal is cross-border in nature or not. However, the firms engaging in industry-diversifying M&As have a significantly larger fraction of dual CEOs (22.2%). Arguably, the above results indicate that director attributes differ most importantly depending upon the cross-border nature of the sample deals.

[11] Although the European Commission recommended in 2005 (EC/2005/162) that "the (supervisory) board should comprise a sufficient number of committed non-executive directors, who play no role in the management of the company or its group and who are independent in that they are free of any material conflict of interest", the implementation of this recommendation in legislation was left to the various EU member states. In a report on the application of the recommendation by EU member states in 2007 (SEC/2007/1021), it became clear that the independence criterion imposed by the individual member states largely reflected the EC recommendation. Nonetheless, some member states had only specified very general independence criteria, while others had specified no criteria at all.

The average fraction of voting rights controlled by the firm's largest ultimate shareholder amounts to 33.9%. Non-tabulated results reveal that 1,594 sample firms (71.5%) have a shareholder controlling at least 20% of voting rights. From examining those 1,594 firms in more detail, we conclude that this large shareholder is most often either an individual or a family (429 firms; 19.2%), an institutional investor (408 firms; 18.3%), another industrial/ service corporation (624 firms; 28.0%), or a government (47 firms; 2.1%). Panel B of Table 2.4 further reveals that acquirers of a domestic takeover target have a significantly larger dominant owner than acquirers of a cross-border target firm (35.4% vs. 32.7%). Besides, acquirers of an unrelated target firm have a significantly larger blockholder than acquirers of an industry peer (35.6% vs. 32.9%).
Interestingly, Panel B of Table 2.4 further shows that the industry-diversifying takeovers are significantly more likely to occur in the subsample of domestic M&As (44.9%) than in the subsample of cross-border M&As (36.5%). Likewise, Panel C reveals that the cross-border deals are significantly more likely to arise in the subsample of industry-related M&As (57.4%) than in the subsample of industry-diversifying M&As (48.8%). *RELATIVE DEAL SIZE* averages to 19.4%. In line with this finding, only 6.4% of takeover targets are publicly listed firms. The fraction of takeovers that are paid at least in part in acquirer shares is 27.4%. For domestic transactions, 37.4% of M&As are partly paid in acquirer shares, which is significantly more than the 18.5% in the subsample of cross-border M&As.
The average acquirer *CASH RATIO* amounts to 11.4% and is significantly higher for acquirers engaging in domestic takeovers (12.4%). Average acquirer *LEVERAGE* equals 13.6%; it is higher for firms pursuing cross-border M&As (14.5%). The average *M/B* is 2.6 in the full sample, yet is significantly higher for firms engaging in cross-border and industry-related M&As. Finally, *FIRM SIZE* averages to 20.6 in the full sample and is significantly larger for the cross-border acquirers (21.3).

The correlation matrix, presented in Table 2.5, shows relatively small correlations among the various explanatory variables, suggesting that our models and estimates will not suffer from any multicollinearity problems.

Table 2.4: Summary Statistics

This table reports summary statistics on the explanatory variables for the full sample (Panel A), for the subsamples of domestic versus cross-border transactions (Panel B), and related versus industry-diversifying transactions (Panel C). Table 2.1 presents a definition of all variables. The last two columns show the *p*-values of a two-group comparison test.

Variable	N	Mean	Median	Std. Dev.	N	Mean	Median	Std. Dev.	*p*-value on *t*-test	*p*-value on Wilcoxon text
Panel A: Full sample										
BOARD SIZE	2,230	2.0911	2.1972	0.7023						
GENDER DIVERSITY	2,167	0.1051	0.0476	0.1486						
NATIONALITY DIVERSITY	2,227	0.0223	0.0000	0.0841						
AGE DIVERSITY	1,206	8.6846	8.4234	3.4709						
AVERAGE DIRECTOR AGE	1,238	57.2111	57.6349	5.6679						
MULTIPLE DIRECTORSHIPS	2,230	0.0322	0.0000	0.1167						
INDEPENDENCE	674	0.5415	0.5714	0.2568						
CEO DUALITY	450	0.1711	0.0000	0.3770						
BLOCK	1,919	0.3388	0.3000	0.2128						
CROSS-BORDER	2,230	0.5395	1.0000	0.4986						
DIVERSIFICATION	2,230	0.4036	0.0000	0.4907						
RELATIVE DEAL SIZE	1,042	0.1941	0.0378	0.3452						
TARGET LISTED	2,230	0.0637	0.0000	0.2442						
STOCK PAYMENT	766	0.2742	0.0000	0.4464						
CASH RATIO	2,230	0.1139	0.0789	0.1123						
LEVERAGE	2,230	0.1364	0.1145	0.1217						
M/B	2,230	2.6013	2.0900	2.1115						
FIRM SIZE	2,230	20.6359	20.5327	2.3031						
Panel B: Domestic versus cross-border transactions										
	Domestic transactions				**Cross-border transactions**					
BOARD SIZE	1,027	1.9746	1.9459	0.7629	1,203	2.1906	2.1972	0.6296	**0.0000**	**0.0000**
GENDER DIVERSITY	982	0.0989	0.0000	0.1490	1,185	0.1103	0.0625	0.1481	**0.0767**	**0.0119**
NATIONALITY DIVERSITY	1,025	0.0223	0.0000	0.0883	1,202	0.0222	0.0000	0.0804	0.9599	**0.0626**
AGE DIVERSITY	516	8.6109	8.1413	3.8783	690	8.7397	8.5048	3.1336	0.5238	0.3673
AVERAGE DIRECTOR AGE	538	56.5270	57.0258	6.1631	700	57.7368	58.1784	5.1994	**0.0002**	**0.0008**
MULTIPLE DIRECTORSHIPS	1,027	0.0243	0.0000	0.1134	1,203	0.0389	0.0000	0.1191	**0.0034**	**0.0000**
INDEPENDENCE	288	0.5540	0.5455	0.2655	386	0.5349	0.5833	0.2536	0.5308	0.5221
CEO DUALITY	166	0.1928	0.0000	0.3957	284	0.1585	0.0000	0.3658	0.3521	0.3515
BLOCK	868	0.3538	0.3165	0.2116	1,051	0.3265	0.2900	0.2131	**0.0050**	**0.0019**
DIVERSIFICATION	1,027	0.4489	0.0000	0.4976	1,203	0.3649	0.0000	0.4816	**0.0001**	**0.0001**
RELATIVE DEAL SIZE	451	0.2060	0.0432	0.3509	591	0.1850	0.0327	0.3408	0.3305	**0.0529**
TARGET LISTED	1,027	0.0555	0.0000	0.2291	1,203	0.0707	0.0000	0.2564	0.1442	0.1441
STOCK PAYMENT	361	0.3740	0.0000	0.4845	405	0.1852	0.0000	0.3889	**0.0000**	**0.0000**
CASH RATIO	1,027	0.1240	0.0869	0.1258	1,203	0.1053	0.0753	0.0986	**0.0001**	**0.0321**
LEVERAGE	1,027	0.1260	0.0922	0.1253	1,203	0.1452	0.1307	0.1179	**0.0002**	**0.0000**
M/B	1,027	2.5148	1.9200	2.3480	1,203	2.6752	2.1900	1.8842	**0.0737**	**0.0000**
FIRM SIZE	1,027	19.8254	19.7659	2.2296	1,203	21.3279	21.4377	2.1336	**0.0000**	**0.0000**
Panel C: Industry-related versus diversifying transactions										
	Industry-related transactions				**Industry-diversifying transactions**					
BOARD SIZE	1,330	2.0949	2.1972	0.6712	900	2.0856	2.0794	0.7463	0.7612	0.8273
GENDER DIVERSITY	1,296	0.1069	0.0588	0.1466	871	0.1025	0.0000	0.1515	0.4950	0.2231
NATIONALITY DIVERSITY	1,328	0.0215	0.0000	0.0825	899	0.0234	0.0000	0.0865	0.5895	0.3552
AGE DIVERSITY	756	8.594	8.3401	3.5421	450	8.8368	8.5153	3.3461	0.2403	0.2295
AVERAGE DIRECTOR AGE	774	57.131	57.5920	5.6553	464	57.3444	57.7913	5.6924	0.5218	0.2977
MULTIPLE DIRECTORSHIPS	1,330	0.0327	0.0000	0.1109	900	0.0314	0.0000	0.1248	0.8017	0.1410
INDEPENDENCE	405	0.5478	0.5833	0.2626	269	0.5308	0.5556	0.2473	0.5690	0.5440
CEO DUALITY	283	0.1413	0.0000	0.3490	167	0.2216	0.0000	0.4165	**0.0291**	**0.0292**
BLOCK	1,239	0.3293	0.2930	0.2102	680	0.3562	0.3199	0.2165	**0.0082**	**0.0087**
CROSS-BORDER	1,330	0.5744	1.0000	0.4946	900	0.4878	0.0000	0.5001	**0.0001**	**0.0001**
RELATIVE DEAL SIZE	649	0.1936	0.0407	0.3412	393	0.1949	0.0320	0.3520	0.9524	0.6967
TARGET LISTED	1,330	0.0639	0.0000	0.2447	900	0.0633	0.0000	0.2437	0.9564	0.9564
STOCK PAYMENT	478	0.2636	0.0000	0.4410	288	0.2917	0.0000	0.4553	0.3996	0.3992
CASH RATIO	1,330	0.1147	0.0815	0.1122	900	0.1128	0.0758	0.1125	0.7045	0.2639
LEVERAGE	1,330	0.1337	0.1145	0.1176	900	0.1404	0.1135	0.1275	0.2016	0.5806
M/B	1,330	2.6622	2.1300	2.1345	900	2.5113	2.0400	2.0751	**0.0979**	**0.0556**
FIRM SIZE	1,330	20.5926	20.4279	2.3194	900	20.7000	20.7266	2.2785	0.2804	0.2353

Table 2.5: Correlation Table

This table reports the correlation coefficients and corresponding *p*-values for the explanatory variables for the sample of 2,230 M&As initiated by listed acquirers in Continental Europe during 2007–2013. Table 2.1 presents a definition of all variables. Correlations significant at the 10%, 5%, and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	BOARD SIZE	GENDER DIVERSITY	NATIONALITY DIVERSITY	AGE DIVERSITY	AV. DIRECTOR AGE	MULTIPLE DIRECTORSHIPS	INDEPENDENCE	CEO DUALITY	BLOCK	CROSS-BORDER	DIVERSIFICATION	RELATIVE DEAL SIZE	TARGET LISTED	STOCK PAYMENT	CASH RATIO	LEVERAGE	M/B
GENDER DIVERSITY	**0.0741*** (0.0006)**																
NATIONALITY DIVERSITY	**0.0924*** (0.0000)**	**-0.0473** (0.0279)**															
AGE DIVERSITY	**0.0880*** (0.0022)**	**0.0898*** (0.0018)**	0.0463 (0.1082)														
AVERAGE DIRECTOR AGE	**0.1933*** (0.0000)**	-0.0429 (0.1317)	**0.0708** (0.0127)**	**0.1606*** (0.0000)**													
MULTIPLE DIRECTORSHIPS	-0.0248 (0.2411)	**-0.0811*** (0.0002)**	-0.0180 (0.3957)	**-0.0582** (0.0435)**	**0.0816*** (0.0041)**												
INDEPENDENCE	**0.0872** (0.0236)**	**0.1531*** (0.0001)**	**-0.0683* (0.0770)**	**-0.1459*** (0.0008)**	-0.0227 (0.6010)	**-0.0933** (0.0154)**											
CEO DUALITY	-0.0036 (0.9386)	**-0.0944** (0.0455)**	-0.0608 (0.1977)	**0.1331*** (0.0051)**	0.0424 (0.3722)	-0.0282 (0.5504)	**-0.1266*** (0.0072)**										
BLOCK	**-0.0790*** (0.0005)**	**0.0772*** (0.0008)**	0.0265 (0.2466)	**0.1623*** (0.0000)**	**-0.0595** (0.0491)**	**-0.0838*** (0.0002)**	0.0138 (0.7396)	**0.3065*** (0.0000)**									
CROSS-BORDER	**0.1534*** (0.0000)**	**0.0380* (0.0767)**	-0.0011 (0.9599)	0.0184 (0.5238)	**0.1058*** (0.0002)**	**0.0621*** (0.0034)**	**0.1226*** (0.0014)**	-0.0440 (0.3521)	**-0.0640*** (0.0050)**								
DIVERSIFICATION	-0.0064 (0.7612)	-0.0147 (0.4950)	0.0114 (0.5895)	0.0338 (0.2403)	0.0182 (0.5218)	-0.0053 (0.8017)	-0.0572 (0.1380)	**0.1029** (0.0291)**	**0.0529** (0.0188)**	**-0.0853* (0.0001)**							
RELATIVE DEAL SIZE	-0.0174 (0.5748)	**0.1026*** (0.0011)**	0.0088 (0.7756)	-0.0541 (0.1946)	0.0103 (0.8026)	-0.0290 (0.3489)	-0.0532 (0.3103)	**-0.1196** (0.0436)**	0.0511 (0.1254)	-0.0302 (0.3305)	-0.0026 (0.9341)						
STOCK PAYMENT	**-0.1269*** (0.0004)**	**-0.1030*** (0.0048)**	0.0430 (0.2341)	0.0039 (0.9348)	**-0.1171** (0.0121)**	-0.0568 (0.1165)	-0.0522 (0.3804)	0.0527 (0.4365)	-0.0563 (0.1497)	**-0.2112*** (0.0000)**	-0.0012 (0.9564)	0.0249 (0.5198)					
TARGET LISTED	0.0092 (0.6645)	**-0.0526** (0.0142)**	-0.0146 (0.4917)	-0.0220 (0.4448)	0.0222 (0.4351)	0.0054 (0.7991)	0.0169 (0.6622)	**0.0953** (0.0433)**	-0.0284 (0.2135)	0.0309 (0.1442)	0.0305 (0.3996)	**0.0639** (0.0393)**	0.0296 (0.4135)				
CASH RATIO	**-0.1222*** (0.0000)**	0.0051 (0.8122)	0.0232 (0.2738)	-0.0386 (0.1798)	**-0.1122*** (0.0001)**	-0.0308 (0.1461)	**-0.1039*** (0.0069)**	0.0529 (0.2628)	0.0077 (0.7368)	**-0.0829*** (0.0001)**	-0.0080 (0.7045)	0.0379 (0.2220)	-0.0161 (0.4472)	0.0465 (0.1988)			
LEVERAGE	**0.1688*** (0.0000)**	0.0007 (0.9746)	-0.0338 (0.1103)	0.0279 (0.3338)	**0.1624*** (0.0000)**	0.0038 (0.8581)	0.0328 (0.3945)	**-0.1512*** (0.0013)**	0.0003 (0.9883)	**0.0788*** (0.0002)**	0.0271 (0.2016)	**-0.0690** (0.0259)**	-0.0065 (0.7607)	-0.0475 (0.1888)	**-0.2941*** (0.0000)**		
M/B	-0.0288 (0.1739)	-0.0298 (0.1657)	0.0028 (0.8957)	0.0319 (0.2683)	**-0.0736*** (0.0096)**	**0.0455** (0.0319)**	**0.0823** (0.0326)**	**-0.1360*** (0.0038)**	**0.0635*** (0.0054)**	**0.0379* (0.0737)**	**-0.0351* (0.0979)**	-0.0016 (0.9586)	-0.0285 (0.1786)	0.0102 (0.7772)	**0.0834*** (0.0001)**	0.0292 (0.1685)	
FIRM SIZE	**0.3795*** (0.0000)**	**0.0455** (0.0340)**	-0.0227 (0.2845)	-0.0200 (0.4879)	**0.3385*** (0.0000)**	**0.0396* (0.0614)**	**0.2285*** (0.0000)**	**-0.1695*** (0.0003)**	**-0.1408*** (0.0000)**	**0.3253*** (0.0000)**	0.0229 (0.2804)	**-0.1352*** (0.0000)**	**0.1034*** (0.0000)**	**-0.2704*** (0.0000)**	**-0.2375*** (0.0000)**	**0.2431*** (0.0000)**	**0.2169*** (0.0000)**

2.4 Empirical results

We start this section by examining the influence of board size and composition on the acquirer CAR obtained from the event study, by means of an OLS regression analysis. In addition to reporting results for the full sample (in Table 2.6), we also present the regression output for the subsamples of domestic versus cross-border M&As (in Table 2.7) and industry-related versus industry-diversifying M&As (in Table 2.8). All models always include year, country, and industry fixed effects. Lastly, we examine the robustness of our findings to a number of alternative model specifications and variable definitions, along a discussion of potential methodologic issues related to endogeneity.

2.4.1 Impact of Board Characteristics on M&A Value Creation

Table 2.6 reports the OLS regression results for the acquirer CAR over the [-1,+1] event window. Model 1 shows the results from a model that only includes the control variables, except for *RELATIVE DEAL SIZE* and *STOCK PAYMENT*, given that a lot of data on these two variables are missing (as shown in Table 4). If anything, we expect firms to disclose the transaction size and payment consideration for their largest/most valuable M&As. In model 2, we include all the test and control variables, which considerably reduces the sample size. In model 3, we leave out *STOCK PAYMENT*, while *RELATIVE DEAL SIZE* is additionally removed from model 4. Model 5 then presents the results from a reduced-form model that now also removes the director age characteristics. In model 6, we introduce an interaction term between *NATIONALITY DIVERSITY* and *CROSS-BORDER*. In model 7, we interact *NATIONALITY DIVERSITY* with a dummy that equals one if one of the acquirer's foreign directors has the same nationality as that of the takeover target (*OVERLAPPING*). Finally, in model 8 and 9, we respectively include *BLOCK* and *ROA* to examine the robustness of our findings after controlling for the stake held by the firm's largest ultimate shareholder.

BOARD SIZE has no significant influence on acquirer shareholder announcement returns in Table 6. So, we find support for neither *Hypothesis 1a* nor *Hypothesis 1b*. In line with *Hypothesis 2*, we do identify a weakly significant positive coefficient on *GENDER DIVERSITY* in models 4, 6, and 7 of Table 2.6 ($p < 0.10$). This outcome thus

confirms the idea that women are less likely to fall prey to hubris in M&A decisions and/or are blessed with better monitoring capabilities than men.

In contrast to *Hypothesis 3*, we note a significant negative effect of *NATIONALITY DIVERSITY* on acquirer shareholder abnormal returns in models 2 and 3 ($p < 0.05$). Once we interact the fraction of foreign directors on the board with *CROSS-BORDER* (model 6), we infer that the sum of the coefficients on the simple term and the interaction term is 0.0025, which is not significantly different from zero. Together, those results thus indicate that the earlier negative coefficient on *NATIONALITY DIVERSITY* likely is driven by the domestic takeovers in our sample. Accordingly, a larger fraction of foreign directors on the board is detrimental only for acquirers pursuing purely domestic takeovers. Probably, those foreign directors do not have the same knowledge about local regulations, industry structures, consumer preferences, and managerial practices as domestic ones. Hence, they may encounter more difficulties in gathering the necessary soft information needed to evaluate a purely domestic transaction. In this respect, Masulis *et al.* (2012) also refer to foreign directors' inability to attend and prepare all board meetings. However, as acquirers expand through cross-border takeovers, this negative effect of foreign directors completely vanishes. The latter outcome thus indicates that foreign directors are as good as domestic ones in evaluating cross-border deals or that their negative monitoring effect now becomes offset by a positive advisory effect. Once we interact *NATIONALITY DIVERSITY* with *OVERLAPPING* (in model 7), we cannot find a significant effect either. Foreign directors are thus not at a strategic advantage to evaluate M&As of takeover targets with whom they share their nationality. The latter outcome is thus not in line with earlier research by Masulis *et al.* (2012), who conclude that firms with foreign independent directors are able to capitalize on those directors in their cross-border takeovers of targets located in countries in which one of those foreign directors resides. However, Masulis *et al.* did not carefully disentangle the notions 'foreign' and 'independence' in their variable definition. Besides, and unlike our approach, they would classify US citizens working or living in a foreign country as foreign independent directors at US listed firms.

In support of *Hypothesis 4, AGE DIVERSITY* has a positive influence on M&A value creation, although this variable is only significant at the 10% level in model 3. So, we

find some weak evidence that the age dispersion among directors can add to the productivity of director teams (see also Wiersema & Bantel, 1992; Grund & Westergård-Nielsen, 2007), might prevent group-thinking, and result in more effective boards (Ararat *et al.*, 2015). If anything, the effect of the average age of a firm's directors, which is included as a control variable in our regression models, is positive (yet never significantly so in Table 2.6).

Table 2.6, models 2 and 3 further show that acquirers with a larger fraction of directors having at least three board appointments realize a significantly larger CAR ($p < 0.01$). This finding provides empirical validation for *Hypothesis 5b* and thus also rejects *Hypothesis 5a*. Arguably, well-connected directors seem able to use their broad experience in monitoring and advisory services to make more informed decisions and provide more valuable support to firms pursuing external growth. Having directors with multiple board appointments may also point to better director quality on average, as only highly effective board members are offered multiple directorships (Ahn *et al.*, 2010). As to *INDEPENDENCE*, we identify a significant positive impact on the acquirer CAR, in line with *Hypothesis 6* ($p < 0.05$ in models 2, 3, 6, 8 and 9; $p < 0.10$ otherwise). This finding is consistent with the idea that independent directors can better withstand the potentially colored information presented by the senior management and face less pressure from the firm's various stakeholders. In addition, reputation concerns and a desire to obtain future board positions tend to increase the monitoring effectiveness of independent directors, leading to better M&A outcomes. Lastly, Table 2.6 indicates that *CEO DUALITY* is not significantly associated with acquirer shareholder abnormal returns at deal announcement. This result likely indicates that the conflict of interest with minority investors remains limited in acquiring firms with a combined CEO-chairman. CEO duality in Continental Europe indeed often indicates that a firm's founder or a member of the controlling family combines both positions; and those types of major owners also care about maintaining control of their firm and preserving the family's socioemotional wealth (see also Aktas *et al.*, 2016; Defrancq *et al.*, 2016). In contrast, in an Anglo-Saxon environment, CEO duality more likely reflects managerial entrenchment, which often goes hand in hand with investor expropriation behavior (e.g., Rhoades *et al.*, 2001).

Interestingly, once we include *BLOCK* (*ROA*) in the regression model, we find that our earlier results as to the test variables – parameter estimates and significance levels – are not affected; compare models 5 and 8 in Table 2.6 for this purpose. This same conclusion also arises when we introduce *BLOCK* (*ROA*) in models 2 and 3 of Table 2.6 (not reported in a table). The results from those extra tests are important, as they suggest that controlling shareholders, who may have a large say in the composition of the board of directors, are not the main reason for the relations that we document in Table 2.6. A similar reasoning holds for *ROA*, a measure of firm performance, which may, as suggested by Hermalin and Weisbach (2003), impact the composition of the board, yet does not influence the modeled relations in Table 2.6. In other words, these extra tests allow us to deal with potential endogeneity concerns because of an omitted variable when building the OLS regression model (see also Hermalin & Weisbach, 2003). Moreover, as the strongest correlation between *BLOCK* and any of the board attributes equals only 0.31 (with the variable *CEO DUALITY*), we conclude that board structure is not uniquely driven by ownership structure. A similar conclusion arises from studying the relations between board size and composition and firm performance. This inference is also reflected in the maximum variance inflation factor (VIF), which is always well below five for every model and which is not largely affected after including *BLOCK* (model 8) or *ROA* (model 9).

As to the control variables, we note that *CROSS-BORDER* has a significant positive effect on the acquirer CAR ($p < 0.10$), which suggests that listed firms in Continental Europe were able to take advantage of the imperfections in international capital, factor, and product markets when expanding their business into other countries/markets (see also Martynova & Renneboog, 2011). In line with the literature (e.g., Amihud & Lev, 1981; Defrancq *et al.*, 2016), *DIVERSIFICATION* has a significant negative coefficient. *RELATIVE DEAL SIZE*, *STOCK PAYMENT*, and *TARGET LISTED* are never significant. Finally, although most acquirer characteristics are not significant either, we do find that *FIRM SIZE* has a highly significant negative influence on shareholder abnormal returns surrounding the deal announcement date ($p < 0.01$ in most of the models), a result that is in line with the earlier findings of Moeller *et al.* (2004). Correspondingly, the larger acquirers in our sample engage in M&As that create significantly less shareholder value than the smaller sample firms.

Table 2.6: Board Characteristics and M&A Value Creation

This table shows the OLS regression results as to the acquirer cumulative abnormal return over the [-1,+1] window. Table 2.1 presents a definition of all explanatory variables and their hypothesized effect on the acquirer CAR. All the control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Year, country and industry fixed effects are included. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
BOARD SIZE		0.0006	0.0047	-0.0019	0.0006	-0.0000	0.0010	0.0007	0.0016
		(0.9572)	(0.6438)	(0.8093)	(0.9363)	(0.9945)	(0.8918)	(0.9278)	(0.8230)
GENDER DIVERSITY		0.0155	0.0191	**0.0346***	0.0301	**0.0322***	**0.0322***	0.0289	0.0304
		(0.6573)	(0.4810)	**(0.0770)**	(0.1142)	**(0.0877)**	**(0.0904)**	(0.1338)	(0.1111)
NATIONALITY DIVERSITY		**-0.2153****	**-0.1562****	-0.0676	-0.0672	-0.2972	-0.0178	-0.0677	-0.0665
		(0.0385)	**(0.0304)**	(0.2247)	(0.2075)	(0.2262)	(0.7582)	(0.2074)	(0.1964)
NAT. DIVERSITY * CROSS-BORDER						0.2997			
						(0.2660)			
NAT. DIVERSITY * OVERLAPPING							-0.1301		
							(0.4755)		
AGE DIVERSITY		0.0014	**0.0016***	0.0005					
		(0.2336)	**(0.0994)**	(0.4790)					
AVERAGE DIRECTOR AGE		0.0012	0.0011	0.0006					
		(0.2757)	(0.1065)	(0.2274)					
MULTIPLE DIRECTORSHIPS		**0.2672*****	**0.2337*****	0.0598	0.0601	0.0539	0.0726	0.0588	0.0644
		(0.0008)	**(0.0001)**	(0.3275)	(0.3296)	(0.3598)	(0.2941)	(0.3315)	(0.2893)
INDEPENDENCE		**0.0965****	**0.0681*****	**0.0324***	**0.0325***	**0.0321****	**0.0333***	**0.0334****	**0.0324****
		(0.0404)	**(0.0038)**	**(0.0506)**	**(0.0525)**	**(0.0484)**	**(0.0561)**	**(0.0458)**	**(0.0470)**
CEO DUALITY		0.0050	0.0042	-0.0048	-0.0043	-0.0053	-0.0044	-0.0059	-0.0049
		(0.6717)	(0.6482)	(0.4163)	(0.4432)	(0.3616)	(0.4441)	(0.3052)	(0.4056)
BLOCK								0.0157	
								(0.2656)	
ROA									0.0200
									(0.7472)
CROSS-BORDER		**0.0216***	**0.0157***	**0.0138****	**0.0127****	**0.0090***	**0.0115****	**0.0125****	**0.0129****
		(0.0656)	**(0.0850)**	**(0.0347)**	**(0.0460)**	**(0.0951)**	**(0.0455)**	**(0.0473)**	**(0.0441)**
DIVERSIFICATION		**-0.0175****	**-0.0139****	**-0.0091***	**-0.0105****	**-0.0098****	**-0.0098****	**-0.0105****	**-0.0104****
		(0.0308)	**(0.0108)**	**(0.0722)**	**(0.0401)**	**(0.0481)**	**(0.0457)**	**(0.0379)**	**(0.0406)**
RELATIVE DEAL SIZE		0.0080	0.0051						
		(0.2918)	(0.4107)						
STOCK PAYMENT		0.0021							
		(0.8530)							
TARGET LISTED	0.0024	0.0123	0.0124	0.0110	0.0097	0.0092	0.0106	0.0101	0.0099
	(0.5909)	(0.3583)	(0.2155)	(0.1934)	(0.2287)	(0.2617)	(0.2021)	(0.2194)	(0.2104)
CASH RATIO	-0.0046	0.0150	0.0177	-0.0152	-0.0159	-0.0142	-0.0150	-0.0189	-0.0169
	(0.7152)	(0.7706)	(0.6599)	(0.6093)	(0.5802)	(0.6225)	(0.6025)	(0.5280)	(0.5897)
LEVERAGE	0.0127	-0.0432	-0.0184	-0.0205	-0.0127	-0.0084	-0.0095	-0.0131	-0.0099
	(0.2299)	(0.3445)	(0.4896)	(0.3582)	(0.5655)	(0.6842)	(0.6431)	(0.5577)	(0.6523)
M/B	0.0001	0.0019	0.0016	0.0009	0.0012	0.0010	0.0012	0.0009	0.0010
	(0.8643)	(0.6293)	(0.4544)	(0.5855)	(0.4687)	(0.5384)	(0.4792)	(0.6036)	(0.4848)
FIRM SIZE	**-0.0041*****	**-0.0094****	**-0.0092*****	**-0.0064*****	**-0.0061*****	**-0.0058*****	**-0.0062*****	**-0.0060*****	**-0.0064*****
	(0.0000)	**(0.0176)**	**(0.0001)**	**(0.0006)**	**(0.0004)**	**(0.0005)**	**(0.0005)**	**(0.0005)**	**(0.0011)**
Constant	**0.0458*****	0.0421	0.0462	0.0513	**0.0788****	**0.0745****	**0.0796****	**0.0673***	**0.0841****
	(0.0003)	(0.4939)	(0.2549)	(0.1810)	**(0.0196)**	**(0.0261)**	**(0.0184)**	**(0.0568)**	**(0.0249)**
Observations	2,206	200	279	439	448	448	448	448	448
Adjusted R^2	0.0555	0.3810	0.2618	0.1530	0.1490	0.1593	0.1517	0.1520	0.1500
Log likelihood	0.0236	0.151	0.0756	0.0133	0.0119	0.0214	0.0125	0.0129	0.0106
Maximum VIF	1.18	2.87	2.69	2.37	2.22	4.23	2.22	2.23	2.35

2.4.2 Impact of Board Characteristics in Domestic versus Cross-Border M&As

Given the above-outlined importance of whether an M&A is cross-border in nature or not (in Tables 2.3 and 2.4) and the role of nationality diversity in explaining the acquirer CAR (in Table 2.66), we next separately examine the influence of board size and composition in the subsamples of domestic versus cross-border transactions. In those models, we obviously need to eliminate the dummy *CROSS-BORDER* from the analyses. To further save on degrees of freedom, we also remove most of the acquirer-level control variables, except for *FIRM SIZE*, as they proved insignificant in the analyses; this latter result is in line with our previous findings in Table 2.6. Hereafter, we concentrate the discussion of our findings on how the effects of the test variables differ across the two subsamples.

First, we note that *GENDER DIVERSITY* and *NATIONALITY DIVERSITY* are no longer significant in the subsamples, which likely is related to the reduced sample size on which those extra analyses are run. Nonetheless, the results in Table 2.7 still seem in line with our earlier conclusion from Table 2.6 that the negative effect of *NATIONALITY DIVERSITY* is driven by the purely domestic M&As in the sample (see Panel A of Table 2.7).

Next, the earlier-found positive effect of *AGE DIVERSITY* appears to be driven by the domestic takeovers as well ($p < 0.10$ in model 2 of Panel A), thereby suggesting that a board more heterogeneous in terms of director age may prevent group-thinking and be more effective especially in not-too-complex M&A transactions. In cross-border M&As, which are surrounded by larger information asymmetries and risk, it might be more difficult to reach a consensus when the age diversity among directors is large.

In contrast, the significant positive effect of *MULTIPLE DIRECTORSHIPS* in Table 2.6 appears to be driven by the cross-border M&As in the sample. We indeed find a significant positive influence only in Panel B of Table 2.7, i.e. in the cross-border subsample ($p < 0.05$ in models 5 and 6). The results in Panel A generally point in the same direction, yet are not significant. Overall, this outcome suggests that more reputable, well-informed and -connected directors are an asset to build on particularly in the most complex takeovers. Apparently, those directors with multiple board

positions prove able to effectively curb the (larger) uncertainties associated with cross-border M&As.

Finally, we find that *INDEPENDENCE* has a significant positive impact only in the subsample of domestic takeovers ($p < 0.10$ in models 1 and 2). As *INDEPENDENCE* is typically more related to the monitoring function of the board and as cross-border M&As are usually surrounded by more uncertainties, thereby increasing also the need for strategic advice by the firm's directors, the latter finding might not be so surprising.

Table 2.7: Board Characteristics and M&A Value Creation: Domestic vs. Cross-Border Transactions

This table shows the OLS regression results as to the acquirer cumulative abnormal return over the [-1,+1] window. Table 2.1 presents a definition of all explanatory variables and their hypothesized effect on the acquirer CA. All the control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Year, country and industry fixed effects are included. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	Panel A: Domestic transactions				**Panel B: Cross-border transactions**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
BOARD SIZE	0.0144	0.0122	0.0067	0.0061	0.0002	0.0024	-0.0042	-0.0043
	(0.5945)	(0.5421)	(0.6466)	(0.6629)	(0.9923)	(0.8807)	(0.7033)	(0.6985)
GENDER DIVERSITY	-0.0101	0.0498	0.0431	0.0395	0.0228	0.0188	0.0179	0.0179
	(0.9265)	(0.5317)	(0.3662)	(0.4186)	(0.6243)	(0.5702)	(0.3860)	(0.3916)
NATIONALITY DIVERSITY	-0.3986	-0.4479	-0.3505	-0.3421	-0.0924	-0.0660	0.0121	0.0123
	(0.2140)	(0.1892)	(0.2048)	(0.2068)	(0.3530)	(0.4657)	(0.8302)	(0.8273)
AGE DIVERSITY	0.0045	**0.0033***	0.0019	0.0014	-0.0008	0.0001	0.0003	0.0003
	(0.1038)	**(0.0794)**	(0.1425)	(0.3171)	(0.6944)	(0.9215)	(0.7150)	(0.7084)
AVERAGE DIRECTOR AGE	0.0011	0.0009	0.0011	0.0012	-0.0000	0.0002	-0.0002	-0.0003
	(0.6057)	(0.4536)	(0.2436)	(0.2267)	(0.9777)	(0.8216)	(0.6795)	(0.6707)
MULTIPLE DIRECTORS	0.2765	0.2342	0.0261	0.0367	**0.2488****	**0.2057****	0.0639	0.0643
	(0.2040)	(0.2013)	(0.7472)	(0.6459)	**(0.0323)**	**(0.0188)**	(0.3409)	(0.3401)
INDEPENDENCE	**0.1861***	**0.1589***	0.0513	0.0515	0.0704	0.0352	0.0242	0.0241
	(0.0822)	**(0.0909)**	(0.3834)	(0.3737)	(0.1781)	(0.2499)	(0.1786)	(0.1811)
CEO DUALITY	-0.0113	0.0030	-0.0094	-0.0113	0.0056	0.0050	0.0014	0.0016
	(0.7136)	(0.8949)	(0.4634)	(0.3683)	(0.7375)	(0.6597)	(0.8432)	(0.8313)
BLOCK				0.0406				-0.0016
				(0.2110)				(0.9270)
DIVERSIFICATION	-0.0255	-0.0155	-0.0142	-0.0137	-0.0118	-0.0105	-0.0047	-0.0046
	(0.2032)	(0.2794)	(0.2219)	(0.2194)	(0.1320)	(0.2368)	(0.4227)	(0.4230)
RELATIVE DEAL SIZE	0.0095	0.0082			-0.0073	-0.0033		
	(0.6165)	(0.6229)			(0.4673)	(0.6976)		
STOCK PAYMENT	-0.0012				0.0029			
	(0.9446)				(0.8710)			
FIRM SIZE	**-0.0120***	**-0.0102****	**-0.0051***	**-0.0055****	-0.0058	**-0.0062***	**-0.0043***	**-0.0043***
	(0.0756)	**(0.0336)**	**(0.0595)**	**(0.0385)**	(0.2731)	**(0.0860)**	**(0.0758)**	**(0.0763)**
Constant	0.0295	0.0141	-0.0213	-0.0303	0.0490	0.0690	**0.0816***	**0.0830***
	(0.8463)	(0.8415)	(0.6984)	(0.5929)	(0.5404)	(0.1974)	**(0.0673)**	**(0.0855)**
Observations	82	101	161	161	118	178	278	278
R-squared	0.6006	0.5282	0.2823	0.2930	0.4296	0.2680	0.1789	0.1789
Log likelihood	0.2110	0.1870	-0.0162	-0.0101	0.0858	-0.0122	-0.0064	-0.0108
Maximum VIF	1.82	1.75	1.50	1.52	2.62	2.41	1.91	1.91

2.4.3 Impact of Board Characteristics in Industry-related vs. -Diversifying M&As

Table 2.8 reports the OLS regression results explaining the acquirer CAR for the subsamples of industry-related and industry-diversifying M&As, respectively. Table 2.6 already revealed a significant negative influence of *DIVERSIFICATION* on M&A value creation, which suggests that industry-diversifying takeovers may provide a channel through which managers and/or controlling shareholders could expropriate value from a firm's minority investors. We again remove the dummy *DIVERSIFICATION* and the acquirer-level control variables, except *FIRM SIZE*, from those split-sample regression models. Hereafter, we concentrate the discussion of our findings once more on how the effects of the test variables differ across the two subsamples.

First, in line with the results in Table 2.7, *GENDER DIVERSITY* and *NATIONALITY DIVERSITY* are generally not significant in Table 2.8. However, we do find a weak negative coefficient on *NATIONALITY DIVERSITY* in the subsample of industry-related M&As ($p < 0.10$ in model 2). So, this outcome seems to suggest that the negative effect of *NATIONALITY DIVERSITY* in Table 2.6 is driven especially by the subsample of industry-related M&As (Panel A of Table 2.8). However, the size of the parameter estimates in Panels A and B of Table 2.8 are largely comparable and so we do not want to infer too strong conclusions from our subsample findings as to the role of *NATIONALITY DIVERSITY*.

AGE DIVERSITY proves significantly positive only in the subsample of industry-related takeovers ($p < 0.10$ in models 2 to 4), thereby indicating once more that a board more heterogeneous in terms of director age might prevent group-thinking and be more effective especially in the not-too-complex M&A transactions. So, in line with our earlier findings as to the effects of *AGE DIVERSITY* in domestic vs. cross-border deals, it might be more difficult to reach a consensus in industry-diversifying M&As when the age diversity among directors is large.

In contrast, the significant positive effect of *MULTIPLE DIRECTORSHIPS* in Table 2.6 appears to be driven by the industry-diversifying M&As in the sample. We indeed find a highly significant positive coefficient on this variable in Panel B of Table 2.8 (*p*

< 0.01 in almost all models). Overall, this outcome again suggests that the more reputable, well-informed and -connected directors are an asset to build on particularly in the most complex takeovers.

As far as the fraction of independent directors is concerned, we identify a significant positive impact of *INDEPENDENCE* on the acquirer CAR in the subsample of industry-related as well as industry-diversifying M&As, yet the effect is not significant in all of the models. As such, this result thus indicates that acquirers with a larger fraction of independent directors create more shareholder value regardless of the industry-diversifying nature of the deal.

Finally, we now also identify for the first time a significant negative coefficient on *CEO DUALITY* in Panel B of Table 2.8 ($p < 10\%$ in model 8). So, this outcome provides empirical support for the idea that firms with a powerful CEO-chairman may engage in self-dealing behavior by pursuing industry-diversifying takeovers. Industry-diversifying M&As may indeed allow those CEO-chairmen to diversify their own wealth and human capital, thereby expropriating value from the firm's minority investors (see also Amihud and Lev, 1981). Interestingly, once we interact *CEO DUALITY* with a dummy variable that equals one if at least 20% of the firm's voting rights is controlled by an individual or a family shareholder (in model 9), we find that this negative *CEO DUALITY* effect is entirely offset. So, lone founders or family representatives who combine the positions of CEO and board chairman are less likely to pursue objectives that destroy shareholder value, as this could jeopardize their control of the company and the family's socioemotional wealth (see also Aktas *et al.*, 2016; Defrancq *et al.*, 2016). Moreover, from including extra interactions with other types of large shareholders (in model 10), we conclude that those other dominant owners – institutional investors or corporate shareholders in particular – prove unable to curb an entrenched CEO's self-dealing behavior.[12]

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[12] The dummy *INSTITUTIONAL* equals one if the acquirer's largest ultimate shareholder is an institutional investor controlling at least 20% of acquirer voting rights, while the dummy *CORPORATE* equals one if the acquirer's largest ultimate shareholder is an industrial/service firm controlling at least 20% of acquirer voting rights. The number of sample firms controlled by a government proved too small to interact *CEO DUALITY* with a dummy that equals one for the acquirers in which the government is the largest ultimate shareholder controlling at least 20% of acquirer voting rights.

Another remarkable finding is the significant positive impact of *BLOCK* on acquirer shareholder announcement returns for the subsample of industry-diversifying transactions in Panel B of Table 2.8 (models 8 to 10). Stock market investors thus even seem enthusiastic when acquiring firms invest in a takeover target in an industry that is not related to their own when acquirers have a large controlling shareholder. Having a large blockholder is thus perceived as a positive signal for those industry-diversifying M&As. Once we interact *BLOCK* with each of the dummies capturing the identity of the firm's largest ultimate shareholder (not reported in the table), we find that this positive effect is driven uniquely by the sample firms controlled by an individual or a family.

Table 2.8: Board Characteristics and M&A Value Creation: Industry-Related vs. Industry-Diversifying Transactions

This table shows the OLS regression results as to the acquirer cumulative abnormal return over the [-1,+1] window. Table 2.1 presents a definition of all explanatory variables and their hypothesized effect on *CAR*. All control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Year, country and industry fixed effects are included. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	Panel A: Industry-related transactions				**Panel B: Industry-diversifying transactions**					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
BOARD SIZE	-0.0173	-0.0117	-0.0071	-0.0071	-0.0004	0.0261	-0.0012	-0.0012	0.0046	0.0043
	(0.3971)	(0.4854)	(0.5034)	(0.5074)	(0.9851)	(0.1630)	(0.9208)	(0.9123)	(0.6874)	(0.7090)
GENDER DIVERSITY	-0.0055	0.0033	0.0072	0.0072	-0.0518	-0.0542	0.0278	0.0244	0.0067	0.0085
	(0.9078)	(0.9266)	(0.7612)	(0.7745)	(0.6699)	(0.2749)	(0.4317)	(0.4332)	(0.8105)	(0.7708)
NATIONALITY DIVERSITY	-0.1943	**-0.1587***	-0.0300	-0.0301	-0.1153	-0.1946	-0.0604	-0.0747	-0.0577	-0.0602
	(0.1763)	**(0.0951)**	(0.6803)	(0.6854)	(0.5968)	(0.2063)	(0.5144)	(0.4533)	(0.6082)	(0.5947)
AGE DIVERSITY	0.0017	**0.0025***	**0.0020****	**0.0021***	0.0011	-0.0015	-0.0008	-0.0010	-0.0014	-0.0014
	(0.2428)	**(0.0756)**	**(0.0219)**	**(0.0501)**	(0.6404)	(0.3996)	(0.4309)	(0.3126)	(0.1594)	(0.1740)
AVERAGE DIRECTOR AGE	-0.0001	0.0006	-0.0002	-0.0002	0.0044	0.0015	0.0012	**0.0014***	0.0014	0.0014
	(0.9646)	(0.5061)	(0.7272)	(0.7257)	(0.1884)	(0.1994)	(0.1313)	**(0.0749)**	(0.1040)	(0.1025)
MULTIPLE DIRECTORSHIPS	0.1972	0.1755	-0.0182	-0.0182	**0.2829****	**0.2031*****	**0.1939*****	**0.1909*****	**0.2017*****	**0.2029*****
	(0.3430)	(0.3114)	(0.7802)	(0.7805)	**(0.0424)**	**(0.0074)**	**(0.0006)**	**(0.0001)**	**(0.0000)**	**(0.0000)**
INDEPENDENCE	0.0384	**0.0482****	0.0096	0.0096	0.1774	**0.0705***	0.0436	**0.0442***	**0.0475****	**0.0480****
	(0.2250)	**(0.0274)**	(0.5006)	(0.5044)	(0.1303)	**(0.0911)**	(0.1018)	**(0.0755)**	**(0.0330)**	**(0.0302)**
CEO DUALITY	0.0150	0.0154	-0.0002	-0.0002	0.0077	-0.0114	-0.0134	**-0.0151***	**-0.0232*****	-0.0197
	(0.3222)	(0.2315)	(0.9797)	(0.9853)	(0.7864)	(0.3993)	(0.1153)	**(0.0588)**	**(0.0059)**	(0.2875)
CEO DUALITY * FAMILY									**0.0290***	0.0243
									(0.0501)	(0.2601)
CEO DUALITY * INSTITUT										0.0058
										(0.7589)
CEO DUALITY * CORPORATE										-0.0104
										(0.5962)
BLOCK				-0.0004				**0.0326***	**0.0331***	**0.0323***
				(0.9850)				**(0.0877)**	**(0.0686)**	**(0.0794)**
CROSS-BORDER	0.0111	0.0106	**0.0108***	**0.0108***	0.0579	0.0261	0.0212	**0.0208***	0.0205	0.0192
	(0.2955)	(0.2038)	**(0.0957)**	**(0.0967)**	(0.1992)	(0.3968)	(0.1036)	**(0.0987)**	(0.1369)	(0.1771)
RELATIVE DEAL SIZE	0.0015	0.0036			0.0153	0.0024				
	(0.8771)	(0.6825)			(0.5346)	(0.8656)				
STOCK PAYMENT	0.0022				-0.0088					
	(0.8865)				(0.7236)					
FIRM SIZE	-0.0070	**-0.0074****	**-0.0057****	**-0.0057****	-0.0101	**-0.0119*****	**-0.0077*****	**-0.0077*****	**-0.0075*****	**-0.0075*****
	(0.1130)	**(0.0249)**	**(0.0219)**	**(0.0246)**	(0.2021)	**(0.0084)**	**(0.0007)**	**(0.0007)**	**(0.0016)**	**(0.0019)**
Constant	0.1188	0.0788	**0.0946****	**0.0948****	-0.1641	0.0229	0.0451	0.0211	0.0022	0.0020
	(0.1132)	(0.1428)	**(0.0361)**	**(0.0343)**	(0.3481)	(0.7180)	(0.2291)	(0.5582)	(0.9594)	(0.9644)
Observations	128	181	277	277	72	98	162	162	155	155
R-squared	0.4362	0.3296	0.2429	0.2429	0.5871	0.3550	0.3155	0.3264	0.3488	0.3516
Log likelihood	0.1270	0.0718	0.0545	0.0502	0.0229	-0.1800	0.0500	0.0570	0.0627	0.0490
Maximum VIF	2.01	2.14	1.85	1.86	2.55	2.28	2.09	2.09	2.20	10.18

2.4.4 Robustness Checks

In order to assess the robustness of our findings, we perform several additional tests, for which we discuss the most important findings hereafter. The output from those extra tests is thus not presented in a table, but can be obtained from the authors upon request. First, we analyse the results when using various non-linear model specifications for the test variables. Second, we include a few extra explanatory variables that could potentially alter our above conclusions. Next, we re-estimate our models for event windows longer than the [-1,+1] window. Finally, we examine the robustness of our findings when categorizing the sample into other subsamples.

First, to test for a potential non-linear relation between board size and composition and M&A value creation, we construct squared terms for the test variables *BOARD SIZE*, *GENDER DIVERSITY*, *NATIONALITY DIVERSITY*, *AGE DIVERSITY*, *MULTIPLE DIRECTORSHIPS*, and *INDEPENDENCE*. Yet, as the correlation between the simple terms and their squared terms often proves larger than 0.8, we could not include both terms in our various regression models. So, as an alternative, we replace all the test variables, except for *CEO DUALITY*, by dummy variables that equal one if the corresponding test variable has a value larger than the sample median and zero otherwise. The results point in the same direction as in Table 6, although *p*-values are always higher. In addition, we compute dummy variables that equal one when the board has a non-zero value for *GENDER DIVERSITY, NATIONALITY DIVERSITY*, *MULTIPLE DIRECTORSHIPS*, and *INDEPENDENCE*, respectively. Those dummy variables typically prove significantly related to the acquirer CAR, but do not help to increase our model's explanatory power (adjusted R-square). Arguably, the above results indicate that the effects of the test variables are truly linear in nature.

In subsequent analyses, we incorporate extra explanatory variables. Our results are not affected after adding *TARGET INDUSTRY EXPERIENCE*, a dummy variable that captures whether at least one acquirer board member has developed prior director experience in the target industry. Further, our results prove robust when measuring the explanatory variables in alternative ways (e.g., using acquirer total assets instead of market value to define *FIRM SIZE* and *RELATIVE DEAL SIZE*, using four-digit SIC codes to capture *DIVERSIFICATION*, etc.).

As already pointed out above, ownership and board structure may not be independent constructs (see also Hermalin & Weisbach, 2003). Moreover, the influence of board characteristics on M&A value creation may be contingent upon other factors that could affect the board decision process, of which ownership structure likely is an important one. Hence, in addition to including the fraction of voting rights controlled by the acquirer's largest ultimate shareholder (*BLOCK*), we further add separate dummy variables that account for the identity of the firm's largest controlling shareholder (*FAMILY*, *INSTITUTIONAL*, and *CORPORATE*). From these extra analyses, we learn that those ownership variables are not significantly related to the acquirer CAR, while they do not alter our prior conclusions. Likewise, all the test variables point in the same direction once *BLOCK* is interacted with those three ownership-type dummies; yet, the *p*-values for the variables *GENDER DIVERSITY* and *NATIONALITY DIVERSITY* no longer meet the 10% threshold for statistical significance in this case. Interestingly, the interaction term between *BLOCK* and *INSTITUTIONAL* is significantly negative, which implies that M&A value creation is considerably smaller when the acquirer is controlled by this type of major owner (see also Duggal & Millar, 1999). Overall, we can conclude that our findings are not solely driven by the acquirer's ownership structure.

We also perform two different sets of extra subsample analyses. First, we estimate separate regression models for the subsample of acquirers with a blockholder controlling less versus more than 20% of the firm's voting rights. In addition, we run those models based upon a 50% voting-rights cutoff. Most of our earlier conclusions remain valid, except that *MULTIPLE DIRECTORSHIPS* and *INDEPENDENCE* are now only significantly positive in the subsample of acquirers with a large shareholder controlling less than 50% of the firm's voting rights. Second, we divide the sample into two groups, depending upon whether the relative transaction size is either below or above the sample median. Unfortunately, as we miss a lot of data on *RELATIVE DEAL SIZE*, we lose quite some observations when performing this extra test. Remarkably, we find that *BOARD SIZE* has a significant positive impact on the acquirer CAR for the smaller M&As in our sample, though only with a *p*-value just below 10%. Apparently, for those smaller transactions, the larger collective body of information in larger boards helps concluding better M&A deals. For the larger transactions in our sample, this

positive effect could be offset by any of the countervailing forces we pointed out before, to motivate a potentially negative influence of *BOARD SIZE* on M&A value creation. In addition, we infer that the effects of *GENDER DIVERSITY* and *AGE DIVERSITY* are driven by the larger transactions in our sample.

Finally, we also re-run the models when measuring M&A value creation over longer event windows. For the [-5,+5] event window, the results are generally comparable although *p*-values are somewhat higher. The variable *MULTIPLE DIRECTORSHIPS* is no longer significant at the 10% level ($p = 0.12$). For the event window is even further extended (i.e. to [-10,+10], [-35,+5]), we find that the results for our variables of interest still point in the same direction, yet significance generally fades away over those longer windows. Possibly, confounding news releases introduce noise into our measurement of M&A value creation as the event window is extended beyond [-5,+5].

2.4.5 Endogeneity

As argued by others (e.g. Hermalin & Weisbach, 2003; Schmidt, 2015), corporate boards and firm value are potentially endogenous variables. One should therefore exercise care when interpreting contemporaneous relations between these two constructs. However, in the context of M&A decisions, Schmidt (2015) argues that boards are not necessarily composed ex ante to deal with a particular transaction. Indeed, boards do not adjust instantaneously to changes in the economic environment that prompt an M&A opportunity. Moreover, M&As are in general not much predictable that far in advance, while boards are sticky. As such, endogeneity likely is less of a problem in a study on M&As. Nonetheless, we also implement an instrumental variable (IV) approach to test the robustness of our results to alternative model specifications. So, we look for instruments for the board construct variables that have a significant impact on M&A announcement returns. To that end, we build on the study by Lei and Deng (2014), who use industry averages of the endogenous board variables. They conjecture that an endogeneity problem could exist at the firm level, but not at the industry level. Table 9 shows the results from the IV-approach that is applied for the significant and potentially endogenous variables. As far as the first-stage regressions

are concerned, we find that our instrumental variables have a significant impact ($p < 0.01$) on the corresponding endogenous variables. The F-statistics for the partial R^2 are significant, thereby indicating that the instruments are strong. The second-stage regressions show that the impact of the instrumented variables is in line with our main regression results in Table 6, yet we only find a significant negative effect for the instrumented *NATIONALITY DIVERSITY*.

Table 2.9: Endogeneity: Instrumental Variables approach.

This table reports the results of two stage IV least squares (dependent variables are equal to the acquirer CAR over the window [-1,+1] and the acquirer relative returns). The averages of year, industry and country are used as instruments for *NATIONALITY DIVERSITY*, *INDEPENDENCE, MULTIPLE DIRECTORSHIPS, GENDER DIVERSITY,* and *AGE DIVERSITY*. Table 2.1 presents a definition of all explanatory variables. All control variables are measured at fiscal-year end before M&A and are winsorized at 1%–99%. Year, country and industry fixed effects are included. Coefficients significant at the 10%, 5% and 1% level are marked with *, ** and ***, respectively. *p*-values are reported between parentheses.

	(1) First Stage NATIONALITY DIVERSITY	(2) First Stage INDEPENDENCE	(3) First Stage MULTIPLE DIRECTORSHIPS	(4) First Stage GENDER DIVERSITY	(5) First Stage AGE DIVERSITY	(6) Second Stage CAR
Constant	-0.0235	**0.3623***	-0.0740	**-0.4045****	-0.9087	0.0516
	(0.6666)	**(0.0983)**	(0.4374)	**(0.0331)**	(0.8333)	(0.5774)
NATIONALITY DIVERSITY (YEAR INDUSTRY COUNTRY)	**1.2795*****	-0.5044	0.0511	-0.4770	-4.1773	
	(0.0000)	(0.4174)	(0.6605)	(0.1445)	(0.6692)	
INDEPENDENCE (YEAR INDUSTRY COUNTRY)	0.0162	**0.7106*****	-0.0088	0.0161	0.2649	
	(0.4497)	**(0.0000)**	(0.6231)	(0.7857)	(0.8547)	
MULTIPLE DIRECTORSHIPS (YEAR INDUSTRY COUNTRY)	0.1844	-0.7162	**0.8155*****	-0.3451	-9.3443	
	(0.3006)	(0.3535)	**(0.0001)**	(0.5348)	(0.5953)	
GENDER DIVERSITY (YEAR INDUSTRY COUNTRY)	-0.0049	-0.0655	0.0144	**0.8634*****	-1.1601	
	(0.8863)	(0.8046)	(0.7641)	**(0.0000)**	(0.6324)	
AGE DIVERSITY (YEAR INDUSTRY COUNTRY)	0.0025	-0.0039	0.0008	0.0018	**0.9310*****	
	(0.1734)	(0.5686)	(0.6336)	(0.6984)	**(0.0000)**	
NATIONALITY DIVERSITY						**-0.3843****
						(0.0132)
INDEPENDENCE						0.0539
						(0.2752)
MULTIPLE DIRECTORSHIPS						0.1414
						(0.6564)
GENDER DIVERSITY						-0.0922
						(0.1329)
AGE DIVERSITY						0.0023
						(0.3293)
BOARD SIZE	0.0030	-0.0359	-0.0112	-0.0613	0.5885	-0.0085
	(0.7615)	(0.3141)	(0.4319)	(0.3604)	(0.5189)	(0.4928)
AVERAGE DIRECTOR AGE	0.0001	-0.0023	-0.0003	0.0016	0.0846	0.0012
	(0.9220)	(0.4284)	(0.6780)	(0.4219)	(0.2473)	(0.1661)
CEO DUALITY	0.0044	**-0.1178****	-0.0159	0.0427	0.2964	0.0019
	(0.7551)	**(0.0262)**	(0.2787)	(0.3285)	(0.7345)	(0.9129)
CROSS-BORDER	0.0024	0.0302	-0.0013	**0.0379***	0.6881	**0.0278*****
	(0.7214)	(0.3848)	(0.8900)	**(0.0661)**	(0.2269)	**(0.0020)**
DIVERSIFICATION	**0.0193****	-0.0019	0.0070	-0.0100	0.2559	**-0.0151***
	(0.0263)	(0.9525)	(0.4152)	(0.6579)	(0.5937)	**(0.0548)**
RELATIVE DEAL SIZE	-0.0018	-0.0434	-0.0061	-0.0012	-0.2965	0.0058
	(0.7863)	(0.1197)	(0.4986)	(0.9522)	(0.6126)	(0.5031)
STOCK PAYMENT	**-0.0117****	0.0046	0.0043	0.0088	-0.0112	-0.0003
	(0.0389)	(0.9052)	(0.2917)	(0.6447)	(0.9842)	(0.9773)
TARGET LISTED	0.0054	-0.0329	-0.0113	-0.0436	-0.4727	0.0003
	(0.4976)	(0.4445)	(0.1862)	(0.1091)	(0.4950)	(0.9839)
CASH RATIO	0.0029	**-0.2644***	0.0605	0.1774	-1.7622	0.0415
	(0.9414)	**(0.0578)**	(0.2711)	(0.4585)	(0.6693)	(0.4135)
LEVERAGE	0.0026	**-0.4368****	-0.0542	-0.0206	2.5034	-0.0664
	(0.9393)	**(0.0141)**	(0.2399)	(0.8369)	(0.3540)	(0.1645)
M/B	-0.0003	-0.0055	**-0.0039****	**-0.0157****	0.2003	-0.0008
	(0.8566)	(0.4774)	**(0.0190)**	**(0.0202)**	(0.1357)	(0.7897)
FIRM SIZE	-0.0014	0.0099	0.0062	**0.0263****	-0.2959	-0.0056
	(0.5858)	(0.3056)	(0.1186)	**(0.0213)**	(0.1259)	(0.1698)
N	201	201	201	201	200	200
r2	(0.5653)	(0.8613)	(0.2803)	(0.5427)	(0.5291)	(0.3068)
Durbin score (Chi^2)						8.59476
p						(0.1264)
Wu-Hausman						1.2573
P						(0.2859)
F-test (partial R^2)	15.3348	8.08602	3.02489	9.11206	11.4974	
P	(0.0000)	(0.0000)	(0.0126)	(0.0000)	(0.0000)	

2.5 Discussion and conclusions

This study investigates the influence of the size and composition of acquirer boards on M&A value creation for acquirer shareholders in a Continental European M&A setting. To develop our hypotheses, we start from the two supervisory (i.e., monitoring and advising) functions performed by acquirer boards in M&A transactions. We find that the number of directors on acquirer boards is not related to M&A announcement returns. Our research further challenges the myopic view that more diversity in board composition leads to better monitoring by Continental European boards. While gender and age diversity contribute only weakly to M&A value creation for acquirer shareholders, nationality diversity is found to negatively affect shareholder value in domestic M&As. This result thus indicates that foreign directors on average encounter hard times in gathering the information needed to properly execute their supervisory role in purely domestic M&As. Directors with multiple board appointments and independent directors do have a significant positive influence on acquirer announcement returns. Directors with multiple board seats have developed a more extensive expertise in monitoring and advising companies and also have their reputation at stake; as such, they likely contribute to better deal outcomes. Interestingly, we find that this effect manifests especially in the more complex M&As in our sample, that is cross-border and industry-diversifying transactions. Independent directors are expected to better withstand the pressure from the firm's management and various stakeholders. In contrast to Anglo-Saxon research, we find that CEO duality is not associated with lower M&A value creation, unless those firms with a combined CEO-chairman engage in industry-diversifying takeovers. Nonetheless, this latter effect appears to arise only for the firms that are not controlled by an individual or a family.

Interestingly, we demonstrate differing effects of board characteristics on shareholder value, depending upon the specific M&A context. Domestic board members seem to have superior supervisory capabilities in domestic takeovers, while the knowledge and skills of directors with multiple board appointments prove to be highly valuable especially in cross-border M&As. The latter highly reputable and well-connected directors also prove a valuable source in industry-diversifying M&As. In contrast, age diversity seems to matter especially in the not-too-complex domestic and industry-related transactions. Finally,

CEO duality is not necessarily negatively related to M&A value creation for acquirer shareholders. Only CEO-chairmen in firms not controlled by an individual or a large family blockholder seem to destroy shareholder value by pursuing industry-diversifying M&As. This latter finding thus also indicates that the board of directors in Continental European listed firms is not always able to mitigate the self-dealing behaviour of managers, who may rely upon industry-diversifying takeovers to diversify their own wealth and human capital.

Overall, our research adds to a better understanding of the role of board diversity and its impact on M&A value creation and is therefore of interest to regulators, managers, and stock market investors. It illustrates that today's call for more diversity does not automatically result in more value for acquirer shareholders. In addition, the ideal composition of a board is shown to depend upon the specific M&A context, with varying conclusions in domestic versus cross-border and industry-related versus industry-diversifying M&As. Also, some prior conclusions obtained from Anglo-Saxon M&A samples appear not to consistently hold in a Continental European setting, with most strikingly the effects of CEO duality on M&A value creation.

Our research is, of course, also subject to some limitations. First, as firm performance might influence board size and composition, the issue of reverse causality is always a concern. Although we cannot fully rule out reverse causality, we do believe that by examining major strategic decisions, like M&As, this concern can be largely downplayed. Indeed, the concern of reverse causality is only likely to endure when the board of directors was designed upfront so as to pursue particular corporate takeovers. We are not aware of any research pointing at firms systematically reorganizing their board in anticipation of particular types of takeovers. Moreover, the results from an instrumental variable approach at least point in the same direction. A second caveat of our study is that the ultimate act of monitoring and assisting a firm's management on M&As cannot be observed in the data that we use, as we can only observe the deals that were eventually announced and completed. As such, we could not incorporate disapproved deals in our analyses, which obviously reflect the ultimate act of monitoring as executed by the board. Hence, directly analysing the M&A decision-making process within corporate boards through, for example, in-depth interviews might provide an interesting avenue for future research.

Chapter 3: Influence of family ownership on the industry-diversifying nature of a firm's M&A strategy: Empirical evidence from Continental Europe

3.1 Introduction

"Fortunes are made through concentration and are kept through diversification."
de Visscher, 2003

The ownership structure of many listed companies in Continental Europe (CE) is characterized by high concentration and family control (e.g., Faccio and Lang, 2002; La Porta *et al.*, 1999). Those families are usually also active in the management, occupy board positions, and hold a long-term investment horizon vis-à-vis their firm (e.g., Caprio *et al.*, 2011; Gomez-Mejia *et al.*, 2007). Recent research on European listed firms provides evidence of a non-linear relation between family ownership and firm performance/value (Kowalewski *et al.*, 2010; Maury, 2006; Poutziouris *et al.*, 2015). Specifically, for non-majority family ownership, firms exhibit greater profitability and higher stock market valuation. At majority family ownership, these positive effects no longer arise, which could indicate that a *value-expropriation effect* now offsets the positive *monitoring* and/or *incentive-alignment effect* (Maury, 2006). However, none of these earlier studies has examined mechanisms through which such ownership effects could develop.

In this study, we focus on one specific channel, that is, the influence of family ownership on the industry-diversifying nature of a firm's M&A strategy. The family's view on this issue may indeed diverge from that of the firm's other shareholders. Stock market investors – either retail or professional – can diversify their investment portfolio directly, by buying shares in various listed firms. Hence, they likely prefer each listed company to follow a highly focused value strategy, thereby concentrating on its core competencies. In contrast, the wealth of a large family owner is usually undiversified and heavily tied up in the family firm (e.g., Eisenmann, 2002; Hautz *et al.*, 2013), forcing families to think about more creative ways to achieve a lower risk profile for their investment portfolio. Once having decided to expand the family business,

powerful families can thus induce their firm to engage in industry-diversifying M&As (Aktas *et al.*, 2016). Firms controlled by other types of large shareholders, such as lone founders, institutional investors, and industrial corporations, are unlikely to exhibit this same desire for diversification.

Relying on a large sample of 3,485 M&As during 2005–2013, we find that family-controlled acquirers prefer industry-focused deals at low, i.e., non-majority levels of family ownership. Because those horizontal M&As are associated with greater shareholder abnormal returns on average, we infer that non-majority family control is beneficial for the family firm's minority investors. However, as the size of the family stake increases, family-controlled acquirers become more eager to select an unrelated target firm. The latter result thus indicates that dominant family owners may use their power to pursue an M&A strategy that allows realizing a lower risk profile for their firm. However, we do not find that shareholder abnormal returns at deal announcement are significantly smaller for industry-diversifying M&As made by firms with majority family ownership. Those unrelated M&As, although still representing a conflict of interest with minority investors, thus do not destroy shareholder value on average.

Our study makes a number of important contributions to the literature on family firms. First, by focusing on a firm's M&A strategy, our study offers a potential rationale for the earlier-detected non-linear relation between family ownership and firm performance/value in European listed firms. Our findings prove consistent with this non-linear relation but may also invite other researchers to further open the black box by exploring other channels. Second, our study is also a response to the claim that scant empirical research has examined the impact of family control on corporate diversification (e.g., Steier *et al.*, 2004). The scarce and US-based research as to how family ownership affects the industry-diversifying nature of corporate investments has found conflicting results (see Anderson and Reeb, 2003a; Gomez-Mejia *et al.*, 2010; Miller *et al.*, 2010). While the study by Miller *et al.* (2010) is the most related to ours, it encompasses a very broad M&A definition, including all stock purchases of at least five percent. Many small deals in the Miller *et al.* sample could have been motivated by a financial-investment rationale and thus were not long-term strategic investments. In contrast, we only investigate transactions in which the acquirer obtained majority

control of the target firm. Next, from a theoretical point of view, we note that different types of large shareholders ('principals') behave differently. Our study therefore also endorses the recent direction in empirical family business research to separate true family firms from lone-founder firms (e.g., Miller *et al.*, 2007; Cannella *et al.*, 2015). Another theoretical contribution arising from our study is that a family's various objectives appear to receive different priorities, depending upon the family's ownership stake.

The remainder of our article is organized as follows. First, we present an overview of the relevant literature and develop our hypotheses. We thereafter introduce the sample and variable measurements and report and discuss the results from our empirical analyses. Finally, the last section presents our conclusions.

3.2 Literature review and hypotheses development

In this section, we first briefly review the literature as to how industry-diversifying corporate investments, which include unrelated M&As, can affect shareholder value. We focus on M&As because they involve major strategic decisions with a clearly defined announcement date. Next, we present what the literature so far has argued and found as to *why* managers and large share-holders may pursue this type of investments. Finally, we develop our own hypotheses as to the impact of a large family owner on the odds that its firm follows an industry-diversifying M&A strategy. We also infer the implications for acquirer shareholder value at M&A announcement.

3.2.1 Literature review

Until now, the finance literature has noted that corporate diversification and firm value tend to be negatively associated. Although some scholars have emphasized the *financial synergy benefits* of diversification (e.g., Stein, 1997), the prevailing wisdom in the finance literature is that diversified firms sell at a discount (e.g., Martin and Sayrak, 2003; Rajan *et al.*, 2000). Specifically related to M&As, both Andrade *et al.* (2001) and Betton *et al.* (2008) conclude in their review article that industry-focused transactions produce higher post-deal cash flows than unrelated M&As. Likewise,

Martynova and Renneboog (2011) find for a sample of 2,419 M&As in Europe during 1993–2001 that the takeover of a related target firm results in positive abnormal returns for acquirer shareholders at deal announcement, whereas M&A diversification seems to destroy shareholder value on average. Potentially negative value consequences arising from corporate diversification – which can also arise from conglomerate M&As – encompass extra organizational complexity, cross-subsidization, and limited operating synergy potential. Diversified firms are also more difficult to understand compared to highly industry-focused firms. The ensuing information asymmetries can then shield those diversified firms from the scrutiny and discipline of capital markets (Bruner, 2004). In the end, stock market investors will account for the enlarged threat of agency problems by discounting the firm's stock price.

Given the above negative value consequences of diversification, a number of scholars have sought to explain *why* firms may nonetheless engage in it, for example by means of industry-diversifying M&As. In the M&A literature, most attention has gone to the principal–agent (P–A) conflict of interest that is driven by a separation between ownership and control (Jensen and Meckling, 1976). When firm ownership is widely dispersed, management may have the incentive and the power to pursue its own interests (e.g., Enriques and Volpin, 2007; Shleifer and Vishny, 1986). As regards M&As, managers can initiate transactions not only to increase their power, prestige, and compensation but also to diversify their own wealth and improve their job security. Because managers' income and occupation are closely related to firm performance, the risks associated with their income and employment cannot easily be separated from the firm's business risk. Moreover, because their human capital is relatively illiquid, managers cannot easily diversify their employment risk either (Amihud and Lev, 1981; Morck *et al.*, 1990). As a result, by buying a target firm whose cash flows are less than perfectly correlated with those of their own firm, managers may aim to reduce the firm's risk.[13] However, those unrelated M&As are not necessarily in the best interests of the

[13] Amihud and Lev (1981) investigate in more detail the role of managerial motives in conglomerate M&As, using data on 309 transactions by US listed firms during 1961–1970. They find that management-controlled firms, i.e. firms in which no single party holds at least 10% of the firm's shares outstanding, initiate a significantly larger number of industry-diversifying M&As on average (i.e. 1.10) as compared to firms that are weakly (0.77) or

firm's shareholders, who can diversify their investment portfolio directly by buying shares in various listed companies.[14]

While corporate diversification could indicate a P–A agency problem, other scholars have argued that it might also hint at a conflict between majority and minority shareholders, i.e., a principal–principal (P–P) conflict of interest. Thereby, the role of large family owners has received special attention because a family's wealth is usually undiversified and heavily tied up in the family business (e.g., Eisenmann, 2002; Hautz *et al.*, 2013). However, Anderson and Reeb (2003a) find for a sample of 319 S&P 500 firms that founding families adhere to a highly focused investment strategy. Gomez-Mejia *et al.* (2010), using data on 360 US listed firms, confirm this negative relation between family control and corporate diversification. In contrast, Miller *et al.* (2010) reach the opposite conclusion from examining the industry-diversifying nature of firms' M&As for 898 Fortune-1000 firms. They conclude that although family firms are generally less likely to engage in M&As, family ownership positively affects a firm's propensity to make an unrelated M&A. While this study is most closely related to ours, Miller *et al.* use a very broad definition of M&As, including all stock purchases of at least five percent. Many small deals in the Miller *et al.* sample could thus have been motivated by a financial-investment rationale and were therefore outside the firms' core industry. Moreover, investing a company's resources in highly liquid assets is not diversification any more than having cash is diversification. Additionally, research as to the effects of family ownership on corporate diversification has focused solely on listed firms in the USA.

Next, prior research suggests that concentrated ownership and particularly ownership by insiders can help reduce the P–A conflict of interest between managers and shareholders. Hermalin and Weisbach (1991) find for a sample of 142 NYSE listed

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strongly (0.36) controlled by a single large shareholder. These findings thus confirm the idea that management hinges on M&As to implement a risk-reduction strategy in order to protect its own wealth and occupation.

[14] The agency theory of free cash flow (Jensen, 1986) implies that especially managers with easy access to financial resources may rely upon M&As to pursue their own goals. Accordingly, the stock market returns for M&As announced by cash-rich firms with dispersed ownership are conjectured to be negative. In line with this idea, Harford (1999) finds that cash-rich acquirers in the USA between 1950 and 1994 on average destroyed seven cents in shareholder value for every excess dollar of cash reserves held.

firms that corporate value (Tobin's Q) increases with ownership by managers and directors for insider stakes between 5% and 20%. For insider stakes above 20%, Tobin's Q wanes with it, which likely reflects insider entrenchment. McConnell and Servaes (1990) find a similar non-linear relation but conclude that the turning point is 50% for firms sampled in 1976 and 40% for firms sampled in 1986. Other scholars have specifically explored the role of family ownership, also reporting evidence of a non-linear relation. Anderson and Reeb (2003b) show for 329 US listed firms that firms in which the founding family retains an equity stake and/or is represented in the management or board outperform non-family firms, using return on assets (ROA) and Tobin's Q as dependent variables. However, those positive family effects gradually disappear as the family's ownership stake increases to above 30%. Anderson and Reeb explain their findings by a changing incentive structure as the family becomes too dominant, from value maximization to entrenchment. This change may even result in various forms of minority-investor expropriation.[15] Villalonga and Amit (2006), examining 508 Fortune-1000 companies, confirm that family ownership creates value but only when the founder serves as CEO or as Chairman with a hired CEO. Those effects already manifest for non-majority family ownership because the average family stake equals only 16% in their sample, with a standard deviation of 18%.[16] More recent research by Miller *et al.* (2007) reveals that any positive family effects in US listed firms disappear once lone-founder firms are no longer blended with true family firms.
A few other scholars have analyzed how family ownership relates to firm performance and value in Europe. Maury (2006) investigates a sample of 1,672 non-financial listed firms in Western Europe with financial data from 1998 and ownership data from 2003 and finds that non-majority family ownership is associated with a 16% higher ROA and

[15] Faccio *et al.* (2001) empirically investigate *nepotism*, i.e., the act of favoritism granted to relatives, for a sample of Western European and East Asian listed firms. They find that 68.12% (57.10%) of Europe's (Asia's) families appoint a family member as CEO or Chairman for the companies in which they control at least 20 percent of voting rights. Expropriation through *tunneling* refers to the transfer of assets and profits out of the listed company for the benefit of its dominant owner (Johnson *et al.*, 2000). Tunneling can be realized in various ways: outright theft or fraud, asset sales at non-market-conforming prices, loans at non-market interest rates, excessive executive compensation, or an expropriation of corporate opportunities.
[16] The summary statistics on family ownership in other US-based studies (e.g., Anderson and Reeb, 2003a, 2003b; Miller *et al.*, 2010) prove highly comparable.

a 7% larger Tobin's Q. Kowalewski *et al.* (2010) reach similar conclusions for a sample of 217 Polish listed firms during 1997–2005. Poutziouris *et al.* (2015) also obtain evidence of a positive family effect for 107 UK listed firms, provided that family ownership remains below 31%. Finally, some researchers have linked family ownership to shareholder value effects at the time an M&A is first publicly announced, yet with no consistent results. While Feito-Ruiz and Menéndez-Requejo (2010) detect a positive family effect for a sample of 124 majority-acquisitions of European listed firms during 2002–2004, Caprio *et al.* (2011) find no influence at all for a much larger sample of 2,145 M&As by 777 CE listed companies between 1998 and 2008. However, that research does not specifically integrate the potential relation between family ownership and the industry-diversifying nature of a firm's M&As into the analyses.

3.2.2 Theory and hypotheses

To develop our hypotheses as to the influence of a large family shareholder on the odds that its firm adheres to an industry-diversifying M&A strategy conditional upon pursuing external growth, we integrate the P–A and P–P theoretical frameworks. Specifically, we posit that family control can be a mechanism to mitigate the P–A incentive problem at low levels of family ownership but may evolve to a P–P conflict of interest when family control is too dominant. We consider the turning point from low to too-large family ownership an empirical question but, based upon our literature review, expect it to fall in a range from 20% to 50%.

When a family shareholder holds a non-trivial but non-dominant ownership stake in its firm, it should be able to restrain management's self-interested behavior when engaging in M&As. Hence, this large family shareholder will prevent management from pursuing M&As that do not maximize value, such as in industry-diversifying M&As. First, when its stake remains limited, the family is unlikely to occupy a majority of executive and director positions, and, hence, a P–A conflict of interest could surface. Nonetheless, the family, possibly with the support of other non-family shareholders, should be able to curb it. Indeed, the family will have the incentive and the power to induce management to maintain the firm's focus on its core competencies, which is to the

benefit of all shareholders. However, the family will not be so powerful that it can pursue its own interests, particularly when its firm is publicly listed. For one thing, if the family were to induce managers/directors to deviate from maximizing shareholder value and collude with them to share the ensuing private benefits, the family firm could become subject to a hostile takeover bid (see also Caprio *et al.*, 2011). With its limited stake, the family might not be able to prevent a majority of the firm's other shareholders selling out to the corporate raider. This mechanism by itself is likely to impose discipline on the listed family firm, especially because families also esteem the non-pecuniary aspects of family ownership (e.g., Gomez-Mejia *et al.*, 2007; Handler *et al.*, 1990; Schulze *et al.*, 2003a). Moreover, their more altruistic attitude vis-à-vis the family firm as its steward, their long-term investment horizon, and their wish to transfer the business to future generations (e.g., Cannella *et al.*, 2015; Gomez-Mejia *et al.*, 2007) may motivate families to concentrate on maximizing the firm's stock market valuation to realize their other objective, i.e., maintaining control. The above rationales likely play a crucial role in M&As, which are major strategic decisions for a corporation, thereby providing family firms with a strong incentive to pursue deals that add to shareholder value. As a result, we expect stock market investors to respond positively to M&As by acquirers controlled by a family with a non-trivial but non-dominant ownership stake.

In contrast, non-family firms, either widely held or controlled by another type of large shareholder, often prove unable to induce management to focus on maximizing shareholder value when engaging in M&As. Chen *et al.* (2007) and Duggal and Millar (1999) argue that banks, pension funds, and other financial entities may not be able to play an independent monitoring function in M&As because they may also consider their current and potential future business relations with the listed firm. Hence, those large non-family shareholders may consent to lower-value deals if the benefits from doing so outweigh the costs. As to lone-founder firms, Miller *et al.* (2007) note that they spend more on R&D and capital investment and achieve higher rates of revenue growth than family firms. Likewise, Cannella *et al.* (2015) contend that lone-founder firms often include an entrepreneurial or growth orientation. When expanding through M&As, we

therefore expect those lone-founder firms to pursue deals that contribute to shareholder value, regardless of whether the target firm is inside or outside their core industry.

In sum, we propose the following hypotheses:

> *Hypothesis 1a: If family ownership is not too dominant, then the likelihood that a family-controlled firm will pursue an industry-diversifying M&A strategy is low.*
> *Hypothesis 1b: If family ownership is not too dominant, then the impact of family ownership on acquirer shareholders' abnormal returns at deal notification will be positive.*

When a family shareholder holds a too-large ownership stake, it can (ab)use its power to put pressure on the firm's managers or directors to steer particular corporate decisions, resulting in a P–P conflict of interest with the firm's minority investors. A dominant family owner could thus induce its firm to adhere to an industry-diversifying M&A strategy to reduce overall company risk (Aktas *et al.*, 2016). The family firm might also be better able to achieve this diversification since it can buy unlisted companies. First, both academic and business consulting studies agree that, in contrast to other types of large shareholders, families' wealth in particular is usually largely tied into the family business. Anderson and Reeb (2003a) show that families appearing on Forbes' list of the *400 Wealthiest Americans* and in the ownership structure of S&P 500 listed firms typically have over 69% of their wealth invested in their firm. McCullough (2010) argues that the undiversified nature of family wealth is the main reason for the existence of family offices that help families manage the shift from creating wealth to sustaining it, thereby engaging primarily in diversification. Notably, Gomez-Mejia *et al.* (2007) contend that family wealth includes not only a financial component, i.e., cash flow rights, but also a socioemotional component, which represents the ability to exercise authority, the conservation of the family's social capital, and the opportunity to be altruistic to family members (see also Handler *et al.*, 1990; Schulze *et al.*, 2003b). This latter component might further strengthen the family's aversion toward corporate risk, inducing it to focus on maintaining control. More surprisingly, these authors further contend that family firms could be reluctant to diversify their business because doing so indirectly poses a hazard to the family's socioemotional wealth (SEW). Specifically, they contend that the greater complexity arising from a diversifying

growth strategy enhances the need for delegation and outside managerial talent, thereby potentially threatening the family's SEW (see also Gomez-Mejia *et al.*, 2010; Muñoz-Bullón and Sánchez-Bueno, 2012; Sánchez-Bueno and Usero, 2014). Moreover, they note that diversification requires raising extra capital, usually by means of debt. Because family firms are more averse to the risk of losing control than other firms and because a higher debt ratio increases that risk, Gomez-Mejia *et al.* claim that family firms might be less willing to diversify and take on this extra debt (see also Mishra and McConaughy, 1999; Schulze *et al.*, 2003a). However, in the context of M&As, the above arguments could apply just as well to industry-related transactions; it is indeed *growth by itself* that may induce firms to seek external financing and involve non-family executives. In support of our arguments, the M&A literature has highlighted that acquiring firms must think about how to finance and pay for their M&As, regardless of whether a deal is inside or outside their core industry (e.g., Faccio and Masulis, 2005; Martynova and Renneboog, 2009). Likewise, firms' execution of an M&A alone is often followed by top-management turnover (e.g., Lehn and Zhao, 2006; Walsh, 1988). In sum, industry-diversifying M&As are unlikely to expose family firms to a larger debt ratio or to a greater need for outside managerial talent and expertise than industry-focused M&As; however, they could help reduce the family firm's overall risk profile. Now turning to the relation between family ownership and a firm's M&A strategy, we expect that family shareholders with a too-large ownership stake can pursue their own interests when engaging in M&As. Hence, those family blockholders can force their company into buying an unrelated target firm. When such a risk-reducing or wealth-preserving strategy is pursued, a P–P conflict of interest with the firm's minority investors arises. Indeed, the latter shareholders can diversify their investment portfolio directly, without lengthy negotiations and without having to pay an acquisition premium, by buying shares in various listed firms. Hence, they likely prefer each listed company to follow a highly focused value strategy, thereby concentrating on its core competencies. We expect this P–P conflict of interest to emerge especially when the family holds a very large ownership stake in its firm. Only when families control a sufficiently large fraction of voting rights do they have the power to force decisions that could be harmful to other investors. Moreover, only when their stake is large enough

can those family shareholders afford not to worry about an outside control event, i.e., a hostile takeover bid on their firm (see also Caprio *et al.*, 2011). Accordingly, stock market investors might respond less positively to industry-diversifying M&As announced by acquirers with a dominant family owner. However, this is not to argue that listed firms with a large family owner will always engage in lower-value M&As. In many cases, the magnitude of the family financial wealth at stake will be sufficient to impose discipline on the M&A strategy of those firms.

In contrast, dominant shareholders in non-family firms – perhaps with the exception of lone founders – usually hold a far better diversified investment portfolio and, thus, should be less inclined to use their power in the firm to pursue an industry-diversifying M&A strategy. While lone founders also have a strong desire to retain discretion/control, for themselves rather than for their offspring, Cannella *et al.* (2015) emphasize that lone founders also view their firm as an extension of themselves; hence, they are more committed to innovation and economic pursuits relative to family firms and may find more alignment with the goal of shareholder value maximization, even when controlling a very large fraction of their firm's voting rights.

In sum, we propose the following hypotheses:

> *Hypothesis 2a: If family ownership is too dominant, then the likelihood that a family-controlled firm will pursue an industry-diversifying M&A strategy is high.*
>
> *Hypothesis 2b: If family ownership is too dominant, then the impact of family ownership on acquirer shareholders' abnormal returns at deal notification will be positive, unless the firm pursues an industry-diversifying M&A strategy.*

3.3 Data and methods

3.3.1 Sample

Our sample includes all M&As made by listed acquiring firms with corporate headquarters in Continental Europe and announced between January 1, 2005 and April 30, 2013.[17] As a sample selection criterion, we only select M&As that are included in

[17] We remove acquirers headquartered in the UK and Ireland, as those firms operate in a different legal and institutional environment (e.g., La Porta *et al.*, 1998). In Continental Europe, minority-investor protection and disclosure standards are typically weaker, which also engenders a lower stock market development. Such a

the Zephyr database.[18] We next only retain deals for which the acquirer held a stake less than 50% before deal announcement and obtained majority control of the target firm as a result. Moreover, the acquirer must be listed on a stock exchange so that we can compute acquirer shareholder value effects upon deal announcement. The above criteria result in an initial sample of 9,710 M&As. We subsequently remove the acquirers active in the financial services industry (US SIC code 6) because those firms are often subject to specific regulations and because they file their financial reports under different accounting standards (1,888 deals). Finally, we only retain M&As for which acquirer ownership data are available in the Amadeus database. The above selection criteria result in a final sample of 3,485 M&As. So, the unit of analysis in our study is the M&A transaction. The average M&A in our sample has a value of 351.8 million EUR (median of 17.7 million EUR).

3.3.2 Variable measurements

In this section, we present our variables of interest. First, we explain how we identify a family-controlled acquiring firm. We also elaborate on our various measures capturing the magnitude of family ownership for the subsample of family-controlled firms. Next, we explain in more detail our definition of an industry-diversifying M&A. Finally, we introduce the event study methodology to compute acquirer shareholder value effects upon deal announcement.

Miller *et al.* (2007) provide an overview of the myriad of definitions of family firms in academic research, finding it difficult to reach a consensus on the most appropriate one. In this study, we define a family firm as one in which multiple members of the same family are involved as major owners, directors, or managers, either contemporaneously

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context thus provides an ideal setting for agency problems to thrive. Besides, ownership concentration and family control are also much more important in Continental Europe (e.g., Faccio and Lang, 2002; La Porta *et al.*, 1999).

[18] The Zephyr database is commercialized by Bureau van Dijk and contains information on more than one million transactions worldwide, with pan-European deals dating back to 1997. Compared to Thomson Financial and Mergerstat, Zephyr has a larger coverage of European and smaller M&As. Furthermore, it can be linked easily to the Amadeus database (also Bureau Van Dijk), including the annual accounts and ownership data of more than 18 million European firms. We started data collection in 2005, as listed firms in the EU henceforth had to rely on the same accounting standards (IFRS). Also, the coverage of ownership data in Amadeus is much better as of 2005.

or over time (see also Cannella *et al.*, 2015). To operationalize it, we first identify each sample firm's largest ultimate shareholder. To that end, we only consider blockholders ultimately controlling at least 5% of voting rights (see also Anderson and Reeb, 2003a; Miller *et al.*, 2007, 2010).[19] In contrast to prior research assuming stable ownership stakes over time (e.g., Maury, 2006), we collect each firm's ownership data as close as possible to but before the M&A announcement date. We also account for each shareholder's total, i.e., direct as well as indirect ownership. For the firms on which Amadeus only reports direct equity stakes, we assume that the corresponding owners hold no indirect voting rights. To identify the family-controlled acquirers in our sample, we next check whether the firm's largest ultimate shareholder is categorized as one or more named individuals or families in Amadeus. We require that at least two owners, two directors, or two managers have the same surname to separate true family firms from lone-founder firms. However, we also recognize that firms not meeting this last criterion could still be family firms, for example when sons-in-law or daughters-in-law became involved as owners, directors, or managers over time. To also correctly classify those last remaining firms, we manually inspect their websites (company history, annual reports, and other contents) to verify whether they meet our above criteria for family firms. Lone-founder firms thus relate to businesses in which no relatives of the founder(s) are involved.

To separate family-controlled acquirers from non-family acquirers, we set the dummy *FAM5* equal to one for acquirers in which the largest ultimate shareholder is a family controlling at least 5% of voting rights. To analyze the effects of family ownership, we compute *FAMBLOCK* as the fraction of direct and indirect voting rights controlled by the firm's family. Additionally, we construct dummy variables to distinguish between limited and dominant family ownership. Starting from the results in our literature review, we put forward two cutoffs, one based on 20% and another on 50%. This results in three extra dummy variables: *FAM5_20*, *FAM20_50*, and *FAM50_100* equal one for

[19] When relying on a 10% cutoff (e.g., Caprio *et al.*, 2011), only 23 out of the 547 M&As made by a family-controlled acquirer (4.2%) were re-classified as being initiated by a non-family-controlled acquirer. Increasing this threshold from 5% to 10% did not materially affect the conclusions from our multivariate analyses.

acquirers with a fraction of family voting rights in the ranges of [5,20],]20,50], and]50,100], respectively. The 50% cutoff allows us to distinguish between minority and majority family ownership (see also Caprio *et al.*, 2011; Maury, 2006). We also implement robustness checks with other cutoffs (see further). Finally, we create the dummy variables *OTHER5*, *OTHER5_20*, *OTHER20_50*, and *OTHER50_100* to identify acquirers with another, i.e., non-family large shareholder. Those dummy variables equal one when the acquirer's largest ultimate shareholder is a non-family-related one controlling a specific fraction of voting rights. For acquirers without a shareholder holding at least 5% of voting rights, the variables *FAMx_y* and *OTHERx_y* have a value of zero.

To identify the industry-diversifying nature of the M&As in our sample, we note that prior research has often relied on US SIC codes (e.g., Anderson and Reeb, 2003a; Gomez-Mejia *et al.*, 2010; Miller *et al.*, 2010). Although the Fama and French (1997) classification into 49 industries seems more manageable than a categorization based on three-digit or four-digit US SIC codes, it in fact also relies on those SIC codes. Next, the TNIC classification of industries, as proposed by Hoberg and Philips (2010), draws on a text-based analysis of 10-K product descriptions. However, those 10-K reports are not readily available for listed firms in Continental Europe; the same applies to the input-output data from the Bureau of Economic Analysis, which are collected only for the US economy. In sum, because US SIC codes are widely used and easily accessible for the firms in our sample, we rely on three-digit US SIC codes to identify industry-diversifying M&As. Hence, we set the dummy *DIVERSIFICATION* equal to one if none of the acquirer's three-digit SIC codes equals one of the target firm's three-digit SIC codes.[20] We later implement robustness checks based on four-digit US SIC codes.

[20] A number of examples can clarify our procedure. In 2007, Hunter Douglas NV (active in US SIC industries 179, 259, and 871) acquired Electronic Solutions Inc. (active in US SIC industry 369). This deal is thus classified as an industry-diversifying transaction (*DIVERSIFICATION* = 1). In 2006, Telekom Austria AG (active in US SIC industries 481 and 737) bought Etel Austria AG (active in US SIC industries 481 and 737). This deal is classified as industry-focused (*DIVERSIFICATION* = 0). Our procedure differs somewhat from that used by Miller *et al.* (2010), who classify an M&A as industry-diversifying if the acquirer's primary US SIC code differs from that of the target firm. So, unlike Miller *et al.* (2010), we still categorize a deal as industry-focused if the acquirer, realizing 60% of its sales in US SIC industry A and 40% of its sales in US SIC industry B, buys a target firm that realizes 100% of its sales in US SIC industry B.

Finally, we rely on the event study methodology to evaluate the value creation in each M&A from the point of view of acquirer shareholders. Research in corporate finance typically posits that stock market investors impound the economic gains from synergies and/or a change in corporate control in the stock price of the combining companies at deal notification. The most important advantage of the event study methodology is indeed that it is forward looking, implicitly accounting for the present value of all future M&A gains. Also, it can be manipulated less easily than accounting-based performance metrics, and it is unrelated to the quality of deal implementation, i.e., post-M&A integration. To capture the perceived value creation in each deal for the acquirer's minority investors, we calculate acquirer shareholder abnormal returns surrounding the deal announcement date (day 0). Those abnormal returns are computed as the differences between realized and expected returns. Expected returns are obtained from the market model, which is estimated over a clean period [-250,-51] relative to the event date:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{jt} is the realized return on the stock of company *j* on day *t*, R_{mt} is the realized return on MSCI Europe on day *t*, α_j is the intercept and β_j is a measure of firm *j*'s systematic risk.

The acquirer shareholder abnormal returns are summed over the event window $[T_1, T_2]$ to produce a cumulative abnormal return (*CAR*). We use the [-1,+1] event window in our main tests but also work with other windows to account for a potential stock price run-up before deal notification (e.g., Craninckx and Huyghebaert, 2011; Martynova and Renneboog, 2011). However, a drawback of extending the event window is that confounding events could impact the *CAR*. We examine the statistical significance of the *CAR* by means of the test statistic developed by Dodd and Warner (1983). For each security *i*, the standardized abnormal return on day *t* (SAR_{it}) is computed by dividing the abnormal return on that date (AR_{it}) by its standard deviation (s_{it}). The standardized *CAR* over the window $[T_1, T_2]$ is then calculated as follows:

$$SCAR_i = \sum_{t=T_1}^{T_2} SAR_{it} \frac{1}{\sqrt{T_2 - T_1 + 1}}$$

For a sample of *N* events, the test statistic (t) that examines the null hypothesis of a zero cumulative abnormal return is obtained as:

$$t = \sqrt{N}\frac{1}{N}\sum_{i=1}^{N} SCAR_i$$

Table 3.1 provides an overview of our study's dependent and test variables, with their hypothesized sign on the industry-diversifying nature of a firm's M&As and on the abnormal returns for acquirer shareholders at M&A announcement. Table 3.1 also reports on our control variables because M&A decisions can be influenced by many factors: firm financial strength, industry conditions, and external governance characteristics. Hence, we specify our models to also control for those forces. Because agency problems are likely more severe when firms have plenty of cash that can be spent at the discretion of managers or large shareholders, we include *CASH RATIO*. Conversely, a high debt ratio (*LEVERAGE*) could reduce those problems because it implies regular debt-service payments (Jensen, 1986). In line with Moeller *et al.* (2004), we expect conflicts of interest with managers to be more serious in large listed firms (*FIRM SIZE*). In a similar vein, managers of glamor acquirers (high *M/B* firms) are more likely to be infected by hubris (e.g., Rau and Vermaelen, 1998; Roll, 1986). Managers who overestimate their own capabilities could then pursue M&As in unfamiliar industries. The incentives of managers and large shareholders to reduce their firm's risk may also depend upon its current risk (Anderson and Reeb, 2003a). We capture this idea by means of the variables *TOTAL RISK* and *CONGLOMERATE*. Next, firms in a low-growth or highly concentrated industry may opt for an industry-diversifying M&A strategy (e.g., Huyghebaert and Luypaert, 2013; Powell and Yawson, 2005). Finally, we control for differences in investor protection and disclosure standards across countries by means of *MARKETCAP_GDP* (La Porta *et al.*, 1998). In countries with a stronger corporate governance regime, as reflected by their superior stock market development, it may be more difficult or more costly to expropriate minority investors.

Table 3.1: Dependent and explanatory variables

Table 3.1 presents definitions of all the dependent and explanatory variables, with the hypothesized effect of the explanatory variables on the incidence of industry diversification and on acquirer shareholder abnormal returns at deal announcement.

Dependent variables	**Definition**		
DIVERSIFICATION	Dummy variable that equals one if none of the three-digit US SIC industries in which the acquirer is active equals one of the three-digit US SIC industries of the target firm, and zero otherwise.		
CAR	The cumulative abnormal return for acquirer shareholders over the [-1,+1] event window, with day 0 being the M&A announcement date.		
Explanatory variables		**DIVERSI-FICATION**	**CAR**
Acquirer ownership characteristics			
FAM5	Dummy variable that equals one if the largest ultimate shareholder is recorded as 'Individual, Individual(s) or family(ies)', 'One or more named individuals or families', or 'Unnamed private shareholder' in the Amadeus database, and if that shareholder controls at least 5% of acquirer voting rights. Additionally, at least two owners, two directors, or two managers should have the same surname or, if not, should be related to each other by means of a family bond, either contemporaneously or over time.	+/–	+/–
FAMBLOCK	Fraction of voting rights controlled by the acquirer's largest ultimate family shareholder (minimum of 5%). The sum of direct and indirect voting rights is used if the family also holds indirect voting rights; direct voting rights are used otherwise.	+	+
FAMx_y	Dummy variable that equals one if a family blockholder controls >=x% and <y% of acquirer voting rights.	+/–	+/–
OTHERx_y	Dummy variable that equals one if a non-family blockholder controls >=x% and <=y% of acquirer voting rights.		
Interaction terms			
DIVERSIFICATION * FAM5			+/–
DIVERSIFICATION * FAMBLOCK			+/–
DIVERSIFICATION * FAMx_y			+/–
Control variables			
CASH RATIO	Cash and cash equivalents / total assets at year-end before M&A announcement.	+	–
LEVERAGE	Long-term debt / total assets at year-end before M&A announcement.	–	+
FIRM SIZE	Natural log of total assets (thousands of euro) at year-end before M&A announcement.	+	–
M/B	Market-to-book ratio: market value of common equity divided by the balance sheet value of common equity before M&A announcement.	+	–
TOTAL RISK	Standard deviation of monthly stock returns [months -60 to -1] before M&A announcement.	+	–
CONGLOMERATE	Number of industries (measured at the three-digit US SIC level) in which the acquirer is active before M&A announcement.	–	+
IND. GROWTH	Median of the one-year lagged sales growth rate in the acquirer's primary three-digit US SIC industry, constructed from all the consolidated financial statements available in the Amadeus database in the year before M&A announcement.	–	+
IND. CONC	Herfindahl-Hirschman concentration index of sales in the acquirer's primary three-digit US SIC industry, constructed from all the consolidated financial statements available in the Amadeus database in the year before M&A announcement.	+	–
MARKETCAP_GDP	Market capitalization of all the publicly listed companies in the acquirer country as a percentage of GDP at year-end before M&A announcement.	–	+

3.3.3 Summary statistics

Table 3.2 displays the yearly, industry, and geographical distribution for the full sample (Panel A) and for the subsamples of M&As by family-controlled versus non-family-controlled acquirers (Panel B) and for the subsamples of industry-diversifying versus industry-focused M&As (Panel C). The 3,485 M&As in our sample were made by 1,156 distinctive acquirers, whereas the 1,231 industry-diversifying deals (35.3% of the sample) were pursued by 422 unique acquirers. Table 3.2 shows that every sample year has a non-trivial number of M&As, with most deals occurring in the year 2007 (11.1% of the sample). Approximately half of the acquirers are active in manufacturing or in personal and business services. The geographical distribution of the acquirers is highly dispersed, with a considerable fraction of acquirers domiciled in France (17.3%), Sweden (12.1%), and Germany (9.6%).

For 547 sample deals (15.7% of the sample), we identify a family as the largest acquirer shareholder, controlling at least 5% of the firm's voting rights. Most of the family-controlled acquirers in our sample are active in personal and business services. The top three countries in terms of M&As initiated by family-controlled firms are France (204 deals; 23.0%), Sweden (98 deals; 15.8%), and Germany (87 deals; 17.7%). The fraction of M&As initiated by family-controlled acquirers in those countries is always larger than the sample average of 15.7%.

Table 3.2: Time, industry and geographical distribution of the sample

Table 3.2 displays the absolute and percentage distribution of the year of M&A announcement, acquirer industry, and acquirer country for the full sample, for the subsamples of family-controlled and non-family-controlled acquirers, and for the subsamples of industry-diversifying and industry-focused M&As.

	Panel A: Full sample		Panel B: Family-controlled versus non-family-controlled acquirers				Panel C: Industry-diversifying versus industry-focused M&As			
			Family-controlled acquirers		Non-family-controlled acquirers		Industry-diversifying M&As		Industry-focused M&As	
	N	Col%	N	Row%	N	Row%	N	Row%	N	Row%
Year of announcement										
2005	426	8.29%	56	13.15%	370	86.85%	140	32.86%	286	67.14%
2006	482	9.38%	66	13.69%	416	86.31%	153	31.74%	329	68.26%
2007	572	11.13%	107	18.71%	465	81.29%	183	31.99%	389	68.01%
2008	522	10.16%	77	14.75%	445	85.25%	196	37.55%	326	62.45%
2009	289	5.62%	35	12.11%	254	87.89%	114	39.45%	175	60.55%
2010	444	8.64%	73	16.44%	371	83.56%	167	37.61%	277	62.39%
2011	395	7.69%	70	17.72%	325	82.28%	137	34.68%	258	65.32%
2012	171	3.33%	29	16.96%	142	83.04%	68	39.77%	103	60.23%
2013	184	3.58%	34	18.48%	150	81.52%	73	39.67%	111	60.33%
Acquirer industry										
SIC 0: Agriculture, forestry, fishing	31	0.60%	5	16.13%	26	83.87%	19	61.29%	12	38.71%
SIC 1: Mining	191	3.72%	19	9.95%	172	90.05%	93	48.69%	98	51.31%
SIC 2: Food	448	8.72%	59	13.17%	389	86.83%	187	41.74%	261	58.26%
SIC 3: Manufacturing	924	17.98%	109	11.80%	815	88.20%	441	47.73%	483	52.27%
SIC 4: Transportation	353	6.87%	24	6.80%	329	93.20%	120	33.99%	233	66.01%
SIC 5: Wholesale	288	5.60%	59	20.49%	229	79.51%	134	46.53%	154	53.47%
SIC 7: Personal and business services	874	17.01%	212	24.26%	662	75.74%	148	16.93%	726	83.07%
SIC 8: Health, legal and social services	372	7.24%	58	15.59%	314	84.41%	89	23.92%	283	76.08%
SIC 9: Public administration	4	0.08%	2	50.00%	2	50.00%	0	0.00%	4	100.00%
Acquirer country										
AT: Austria	64	1.25%	5	7.81%	59	92.19%	26	40.63%	38	59.38%
BE: Belgium	131	2.55%	10	7.63%	121	92.37%	42	32.06%	89	67.94%
BG: Bulgaria	11	0.21%	2	18.18%	9	81.82%	7	63.64%	4	36.36%
CZ: Czech Republic	6	0.12%	0	0.00%	6	100.00%	2	33.33%	4	66.67%
DE: Germany	491	9.55%	87	17.72%	404	82.28%	182	37.07%	309	62.93%
DK: Denmark	78	1.52%	0	0.00%	78	100.00%	21	26.92%	57	73.08%
EE: Estonia	6	0.12%	0	0.00%	6	100.00%	4	66.67%	2	33.33%
ES: Spain	163	3.17%	18	11.04%	145	88.96%	46	28.22%	117	71.78%
FI: Finland	298	5.80%	51	17.11%	247	82.89%	100	33.56%	198	66.44%
FR: France	887	17.26%	204	23.00%	683	77.00%	314	35.40%	573	64.60%
GR: Greece	1	0.02%	1	100.00%	0	0.00%	1	100.00%	0	0.00%
HU: Hungary	1	0.02%	0	0.00%	1	100.00%	1	100.00%	0	0.00%
IT: Italy	168	3.27%	29	17.26%	139	82.74%	62	36.90%	106	63.10%
LT: Lithuania	6	0.12%	0	0.00%	6	100.00%	4	66.67%	2	33.33%
LU: Luxembourg	6	0.12%	0	0.00%	6	100.00%	2	33.33%	4	66.67%
LV: Latvia	3	0.06%	0	0.00%	3	100.00%	0	0.00%	3	100.00%
NL: Netherlands	300	5.84%	10	3.33%	290	96.67%	75	25.00%	225	75.00%
PL: Poland	183	3.56%	31	16.94%	152	83.06%	92	50.27%	91	49.73%
PT: Portugal	32	0.62%	1	3.13%	31	96.88%	12	37.50%	20	62.50%
RO: Romania	5	0.10%	0	0.00%	5	100.00%	4	80.00%	1	20.00%
SE: Sweden	621	12.08%	98	15.78%	523	84.22%	221	35.59%	400	64.41%
SI: Slovenia	21	0.41%	0	0.00%	21	100.00%	13	61.90%	8	38.10%
SK: Slovakia	3	0.06%	0	0.00%	3	100.00%	0	0.00%	3	100.00%
Total	**3,485**	**100.00%**	**547**	**15.70%**	**2,938**	**84.30%**	**1,231**	**35.32%**	**2,254**	**64.68%**

Table 3.3 provides an overview of the ownership distribution for the family-controlled and non-family-controlled acquirers in the sample. All the CE listed acquirers in our sample have a single large shareholder ultimately controlling at least 5% of voting rights. The table further reveals that family ownership is 20% or less for 23.6% of family firms. Notably, 19.7% of family firms have majority family ownership, indicating considerable cross-sectional variation in family ownership across the family-controlled acquirers in our sample. In contrast, Cannella *et al.* (2015) emphasize that minority family ownership is the rule in US listed family firms. Finally, we observe a similarly high variation in ownership stakes for the non-family-controlled acquirers in our sample.

Table 3.3: Ownership held by the acquirer's largest shareholder

Table 3.3 displays the distribution of the fraction of direct and indirect voting rights held by the acquirer's largest ultimate shareholder over various voting-rights brackets for the subsamples of family-controlled and non-family-controlled acquirers.

	Family-controlled acquirers			Non-family-controlled acquirers		
Ownership bracket	N	Col%	Cumul%	N	Col%	Cumul%
[5,10]	23	4.2%	4.2%	368	12.5%	12.5%
]10,15]	51	9.3%	13.5%	378	12.9%	25.4%
]15,20]	55	10.1%	23.6%	244	8.3%	33.7%
]20,25]	69	12.6%	36.2%	263	9.0%	42.7%
]25,30]	47	8.6%	44.8%	239	8.1%	50.8%
]30,35]	57	10.4%	55.2%	234	8.0%	58.8%
]35,40]	20	3.7%	58.9%	156	5.3%	64.1%
]40,45]	30	5.5%	64.4%	173	5.9%	70.0%
]45,50]	26	4.7%	69.1%	158	5.4%	75.4%
]50,55]	61	11.2%	80.3%	189	6.4%	81.8%
]55,60]	17	3.1%	83.4%	104	3.5%	85.3%
]60,65]	42	7.6%	91.0%	129	4.4%	89.7%
]65,70]	13	2.4%	93.4%	90	3.1%	92.8%
]70,75]	18	3.3%	96.7%	68	2.3%	95.1%
]75,80]	7	1.3%	98.0%	24	0.8%	95.9%
]80,85]	6	1.1%	99.1%	41	1.4%	97.3%
]85,90]	5	0.9%	100.0%	39	1.3%	98.6%
]90,95]	0	0.0%	100.0%	12	0.4%	99.0%
]95,100]	0	0.0%	100.0%	29	1.0%	100.0%
Total	**547**	**100.0%**		**2,938**	**100.0%**	

Table 3.4 shows the average and median acquirer *CAR* over different event windows. The largest acquirer stock price reaction takes place in the [-1,+1] event window, with a significant abnormal price jump of 0.97% on average for the full sample ($p \leq 0.01$). Over the [-5,+5] event window, acquirer shareholders realize a significant average *CAR* of 0.80% ($p \leq 0.01$). The average *CAR* is also significantly positive over the [-35,+5] event window ($p \leq 0.05$). Median acquirer *CAR*s are lower but still highly significant. Arguably, the above numbers indicate that stock market investors perceive M&As by listed acquirers in Continental Europe in the 2005–2013 time frame to create shareholder value on average. When comparing the family-controlled and non-family-controlled subsamples in Panel B, we detect an average acquirer *CAR* of 1.16% over the [-1,+1] event window for the family-controlled acquirers, which is not significantly different from the 0.93% for non-family-controlled acquirers. This outcome also arises for the other event windows. When comparing the industry-diversifying and industry-focused subsamples in Panel C, we note that the average acquirer *CAR* equals a significant 0.70% for conglomerate M&As over the [-1,+1] window, whereas it equals a significantly larger 1.11% for related M&As. This conclusion also emerges from the other event windows; however, the difference in average acquirer *CAR* is no longer statistically significant at the 10% level.

Table 3.4: Acquirer abnormal returns for different event windows

This table presents the acquirer *CAR* over different event windows. The significance of the average acquirer *CAR* is tested by means of the Dodd and Warner (1983) parametric test. The significance of the median acquirer *CAR* is tested by means of the non-parametric Corrado test. *CAR*s significant at the 10%, 5%, and 1% levels are marked with *, ** and ***, respectively.

	Event window		
	[-1,+1]	[-5,+5]	[-35,+5]
Panel A: Full sample			
Averages			
CAR%	0.9671 ***	0.8013 ***	0.6334 **
p-value	0.0000	0.0000	0.0175
Medians			
CAR%	0.3750 ***	0.3918 ***	0.0644 ***
p-value	0.0000	0.0000	0.0000
Panel B: Family-controlled versus non-family-controlled acquirers			
Family-controlled acquirers			
Averages			
CAR%	1.1586 ***	0.6227	0.9048
p-value	0.0000	0.1436	0.2114
Non-family-controlled acquirers			
Averages			
CAR%	0.9314 ***	0.8346 ***	0.5829 *
p-value	0.0000	0.0000	0.0417
Comparison of family-controlled and non-family-controlled acquirers (difference in means)			
Averages			
ΔCAR%	-0.2272	0.2119	-0.3219
p-value	0.3528	0.6251	0.6605
Panel C: Industry-diversifying versus industry-focused M&As			
Industry-diversifying M&As			
Averages			
CAR%	0.6991 ***	0.4866 *	0.3574
p-value	0.0000	0.0791	0.4406
Industry-focused M&As			
Averages			
CAR%	1.1130 ***	0.9727 ***	0.7838 **
p-value	0.0000	0.0000	0.0160
Comparison of industry-diversifying and industry-focused M&As (difference in means)			
Averages			
ΔCAR%	-0.4139 **	-0.4861	-0.4263
p-value	0.0262	0.1408	0.4447

Figure 3.1 depicts the average acquirer *CAR* surrounding the M&A announcement date. Before deal notification, the average acquirer *CAR* is slightly negative but close to zero. At M&A announcement, it exhibits a significant upward jump. This pattern is highly comparable to that found by Martynova and Renneboog (2011, p. 232), who analyze 2,419 M&As taking place in Europe between 1993 and 2001.

Figure 3.1: Acquirer abnormal returns surrounding the M&A announcement date

This figure shows the cumulative abnormal return (*CAR*) for acquirer shareholders to the announcement of an M&A from 35 days before to 5 days after the deal announcement date (day 0). The benchmark used in the market model is the MSCI Europe index; the model parameters are estimated over 200 days, starting 250 days before the event date.

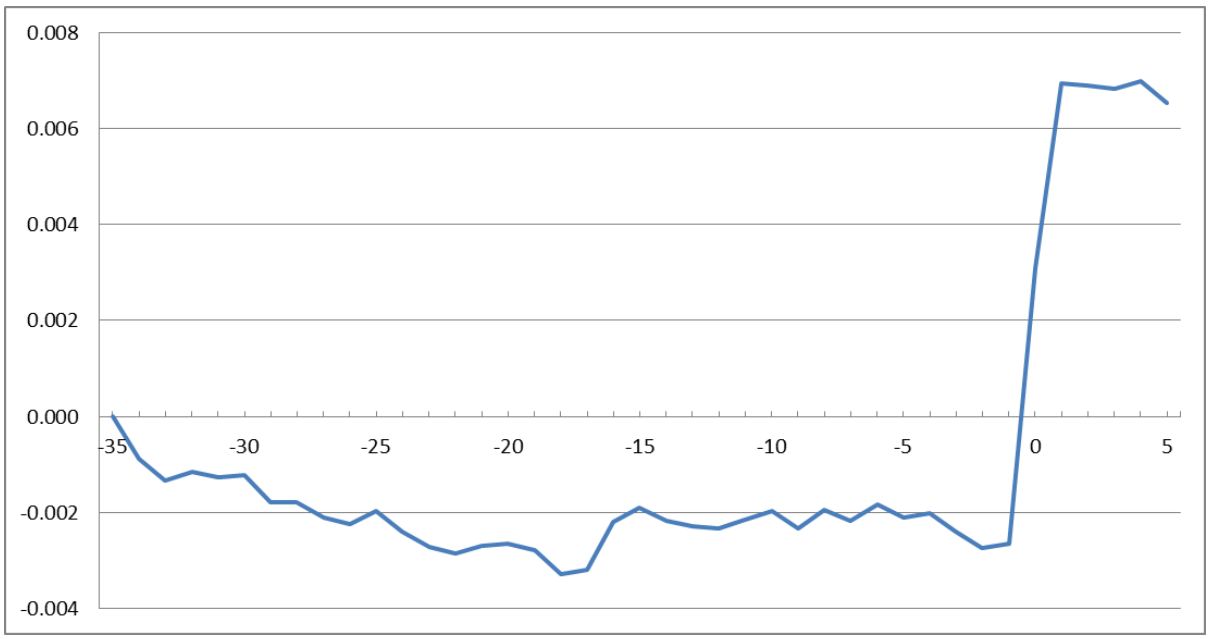

Table 3.5 reports summary statistics for all the continuous explanatory variables, which, unless stated otherwise, are measured at fiscal year-end before M&A announcement to avoid reverse causality problems. To limit the influence of outliers, all the variables – except the dummy variables – are winsorized at 1%–99%. Table 3.5, Panel A shows that the average voting-rights stake of the acquirer's largest ultimate shareholder equals 34.3% (median *BLOCK* of 30.0%). It differs significantly across the family-controlled (36.6%) and other (33.8%) acquirers in Panel B. Family-controlled acquirers also have a significantly larger *CASH RATIO* (12.7%) but lower *LEVERAGE* (12.0%) than their non-family-controlled counterparts. Their *FIRM SIZE* is also significantly smaller. The average acquirer *M/B* equals 2.74 but is not hugely affected by the identity of the firm's largest shareholder. Likewise, *TOTAL RISK* of family firms (0.57) is only smaller based upon the non-parametric test. Family-controlled acquirers are active in 1.98 three-digit US SIC industries on average. *IND. GROWTH* is largely comparable across the two subsamples. However, *IND. CONC*, i.e., the average Herfindahl-Hirschman concentration index in the acquirer's primary industry, is significantly smaller for the family-controlled acquirers (15.1%). Finally, *MARKETCAP_GDP*, measuring the total market cap relative to GDP in the acquirer country, suggests that family firms are equally represented in countries with a more versus less developed stock market.

Table 3.5, Panel C shows that acquirers initiating industry-diversifying M&As have a significantly larger controlling shareholder (average *BLOCK* of 36.4%) than acquirers engaging in industry-focused M&As (33.2%). Additionally, they have a significantly smaller *CASH RATIO* (10.2%), higher *LEVERAGE* (14.3%), a larger *FIRM SIZE*, a smaller market-to-book ratio (2.60), and larger *TOTAL RISK* (0.64). However, they do not differ in terms of *CONGLOMERATE* and *IND. GROWTH*, although acquirers pursuing industry diversification are active in more highly concentrated industries (24.3%). *MARKETCAP_GDP* also differs significantly across the two subsamples, thereby indicating that conglomerate M&As are initiated to a larger extent by acquirers located in a country with a less developed stock market. The correlation matrix, which is in the Appendix, reveals relatively small correlations among the explanatory variables shown in Table 3.5.

Table 5: Summary statistics on the explanatory variables

Table 5 reports summary statistics on the explanatory variables for the full sample, for the subsamples of family-controlled and non-family-controlled acquirers, and for the subsamples of industry-diversifying and industry-focused M&As. Table 1 presents definitions of all the variables. The last two columns show the *p*-values of a two-group parametric and non-parametric comparison test.

Variable	N	Mean	Median	Std.dev	N	Mean	Median	Std.dev	*p*-value on *t*-test	*p*-value on Wilcoxon test
Panel A: Full sample										
BLOCK	3,485	0.3429	0.3000	0.2179						
CASH RATIO	3,273	0.1134	0.0772	0.1133						
LEVERAGE	3,180	0.1354	0.1122	0.1236						
FIRM SIZE	3,291	13.3463	13.2550	2.3107						
M/B	3,304	2.7439	2.2000	2.1037						
TOTAL RISK	3,398	0.5969	0.3356	0.6853						
CONGLOMERATE	3,485	2.4850	2.0000	1.8209						
IND. GROWTH	3,055	0.0578	0.0653	0.0879						
IND. CONC	3,180	0.1927	0.1170	0.1913						
MARKETCAP_GDP	3,485	0.7817	0.7560	0.3440						
Panel B: Family-controlled versus non-family-controlled acquirers										
	Family-controlled acquirers				**Non-family-controlled acquirers**					
BLOCK	547	0.3659	0.3052	0.1986	2,938	0.3386	0.2968	0.2210	0.0071	0.0001
CASH RATIO	527	0.1271	0.0992	0.2263	2,746	0.1108	0.0735	0.1125	0.0026	0.0000
LEVERAGE	525	0.1204	0.0898	0.1142	2,655	0.1384	0.1153	0.1251	0.0023	0.0067
FIRM SIZE	527	12.7343	12.5151	2.1859	2,764	13.4630	13.4469	2.3158	0.0000	0.0000
M/B	521	2.8130	2.3300	1.9727	2,783	2.7309	2.1800	2.1274	0.4141	0.0867
TOTAL RISK	527	0.5671	0.3169	0.6181	2,871	0.6023	0.3376	0.6969	0.2783	0.0926
CONGLOMERATE	547	1.9762	2.0000	1.2599	2,938	2.5442	2.0000	1.8941	0.0000	0.0000
IND. GROWTH	494	0.0531	0.0647	0.0797	2,561	0.0587	0.0655	0.0893	0.1931	0.0863
IND. CONC	508	0.1507	0.0938	0.1687	2,672	0.2007	0.1282	0.1943	0.0000	0.0000
MARKETCAP_GDP	547	0.7961	0.7584	0.3394	2,938	0.7790	0.7560	0.3448	0.2858	0.2757
Panel C: Industry-diversifying versus industry-focused M&As										
	Industry-diversifying M&As				**Industry-focused M&As**					
BLOCK	1,231	0.3638	0.3170	0.2249	2,254	0.3315	0.2900	0.2131	0.0000	0.0001
CASH RATIO	1,149	0.1020	0.0676	0.1033	2,124	0.1196	0.0823	0.1179	0.0000	0.0000
LEVERAGE	1,124	0.1430	0.1154	0.1295	2,056	0.1312	0.1103	0.1200	0.0100	0.0249
FIRM SIZE	1,157	13.4653	13.4469	2.3655	2,134	13.2818	13.1792	2.2784	0.0295	0.0140
M/B	1,152	2.6024	2.1100	2.0202	2,152	2.8196	2.2700	2.1437	0.0047	0.0015
TOTAL RISK	1,204	0.6381	0.3482	0.7245	2,194	0.5742	0.3277	0.6618	0.0093	0.0046
CONGLOMERATE	1,231	2.4890	2.0000	1.8345	2,254	2.4366	2.0000	1.8136	0.4162	0.3013
IND. GROWTH	1,039	0.0568	0.0647	0.0989	2,016	0.0583	0.0653	0.0816	0.6569	0.8481
IND. CONC	1,102	0.2425	0.1774	0.2166	2,016	0.1663	0.0975	0.1706	0.0000	0.0000
MARKETCAP_GDP	1,231	0.7548	0.7528	0.3585	2,254	0.7964	0.7584	0.3349	0.0006	0.0001

3.4 Empirical findings

In the first part of this section, we examine how family ownership influences the industry-diversifying nature of a firm's M&A strategy by means of a logistic regression model. This methodology is appropriate when the dependent variable can take on one of only two possible values. In our study, *DIVERSIFICATION* is a binary variable that equals one for conglomerate M&As and zero otherwise. Next, we present results as to the impact of family ownership on acquirer shareholder value effects from the event study, by means of an OLS regression model. Finally, we investigate the robustness of our results to alternative model specifications.

3.4.1 Impact of family ownership on industry diversification

Table 3.6 displays the output from the logistic regression analysis predicting the probability that *DIVERSIFICATION* equals one, given the values of the explanatory variables. While Panel A shows the results for the full sample, Panels B and C compare family firms to lone-founder firms and to non-family non-lone-founder firms, respectively. For each set of analyses, we first add the dummy variable *FAM5* to explore whether a firm's M&A strategy differs across family and non-family firms (model 1). In model 2, we then investigate in more detail the influence of family ownership given that a firm is family-controlled, by means of the continuous variable *FAMBLOCK*. Finally, model 3 relies on a non-monotonic model specification, by means of the dummy variables *FAM5_20*, *FAM20_50*, and *FAM50_100*. In this model, we also control for the ownership stake of other, i.e., non-family large shareholders in non-family-controlled firms by means of *OTHER5_20* and *OTHER20_50*. Because all sample firms have a single large shareholder controlling at least 5% of voting rights, the reference category for model 3 thus represents the acquirers with a non-family majority shareholder (*OTHER50_100* = 1).

Next, all the models include firm-specific (*CASH RATIO*, *LEVERAGE*, *FIRM SIZE*, *M/B*, *TOTAL RISK*, and *CONGLOMERATE*), industry-specific (*IND. GROWTH* and *IND. CONC*), and country-specific (*MARKETCAP_GDP*) control variables. The results prove robust once the industry-level control variables are replaced by industry

and year fixed effects (not reported in a table). The results also remain valid after substituting *MARKETCAP_ GDP* by country and year fixed effects. The maximum variance inflation factor (VIF) of each model, which is reported at the bottom of Table 3.6, never exceeds ten and hence suggests no multicollinearity problems (Lomax, 1992).

Table 3.6, Panel A reveals that for firms engaging in M&As, the presence of a large family shareholder (*FAM5* = 1) negatively affects the incidence of industry diversification but only significantly so in model 2 ($p \leq 0.01$). In contrast, the stake of the firm's family shareholder (*FAMBLOCK*) has a significant positive effect ($p \leq 0.01$ in model 2). From these two pieces of evidence, we infer that family-controlled acquirers are generally less inclined to pursue conglomerate M&As but are willing to abandon that M&A strategy as the size of family's ownership stake increases.[21] To further validate this latter outcome, we now turn to the results of model 3. Acquirers with a family shareholder controlling either 5% to 20% or 20% to 50% of voting rights are less likely to buy an unrelated target firm than acquirers with a non-family majority shareholder. The coefficient on *FAM50_100* is not significant, thereby indicating that firms with a majority owner adhere to a similar industry-diversifying M&A strategy, regardless of the identity of their largest shareholder. Notably, the parameter estimate on *FAM5_20* is more negative than that on *FAM20_50*, which is in line with our earlier-detected linear relation (model 2). Finally, *OTHER5_20* also has a negative and significant coefficient; however, its effect is far smaller than that on *FAM5_20*.[22] We can thus also infer that acquirers controlled by a family with a non-majority stake are least likely to pursue industry diversification when engaging in M&As. The results from a robustness check – which is not shown in Table 3.6 – reveal that a quadratic term in family ownership, added to either model 2 or model 3, is never significant, thereby confirming once more that the family ownership effect is linear in nature.

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[21] When computing marginal effects based upon model 2, we find that family-controlled acquirers are 7.10% less likely to engage in industry-diversifying M&As than non-family firms. The marginal effect of the variable *FAMBLOCK* amounts to 20.49%. Both variables are thus also economically significant.

[22] We performed a Chi²-test to examine whether *FAM5_20 = FAM20_50*, *FAM5_20 = OTHER5_20*, and *FAM20_50 = OTHER20_50*. This test resulted in a rejection of the null hypotheses, with $p < 0.01$.

Arguably, our findings provide strong empirical support for *Hypothesis 1a*, arguing that families with a non-trivial but non-dominant ownership stake induce their firms to adopt a highly focused M&A strategy, which is more likely to add to shareholder value. We find that those effects arise uniquely for non-majority levels of family ownership. Therefore, families with a non-majority stake prove able to curb the P–A conflict with management in M&As because of their stricter monitoring of managers and/or because of their well-aligned incentives with the firm's minority investors. However, as the family's ownership stake increases to above 50%, a P–P conflict with minority investors ensues, thereby offsetting the earlier-obtained beneficial family effects. Rather than focusing on shareholder value maximization, families with majority ownership now induce their firms to embrace an M&A strategy that accomplishes another, i.e., family-related objective. In this study, we find that those family firms have a preference for conglomerate M&As, which can help diversify the family wealth. Our findings thus also provide strong empirical support for *Hypothesis 2a*. Overall, our results are not consistent with earlier findings by Anderson and Reeb (2003a) and Gomez-Mejia *et al.* (2010). While our findings, despite our reliance on divergent definitions of M&As and diversification, are more in line with those of Miller *et al.* (2010), they also refine those scholars' conclusions by showing an intrinsic preference of family-controlled firms for industry-focused M&As, which is only abandoned when the family controls a majority of the firm's voting rights.

Next, our findings as to family ownership in Panels B and C of Table 3.6 are highly comparable to those in Panel A. The weaker statistical significance of some of the relations in Panel B is probably due to the reduced sample size in that panel; the parameter estimates are indeed still highly comparable. We therefore infer that the most important categorization of acquirers as to the industry-diversifying nature of their M&A strategy is that into family-controlled versus non-family-controlled firms. Accordingly, and in line with our theoretical arguments, lone-founder firms are much more akin to other types of non-family businesses than to family firms in reference to the industry-diversifying nature of their M&As. In sum, while prior research has shown that firm performance/value differs significantly across family firms and lone-founder

firms (e.g., Miller *et al.*, 2007), our study is the first to show that they also embrace a divergent M&A strategy.

As regards the firm-level control variables, we find that *CASH RATIO* and *LEVERAGE* are not significant in Panel A of Table 3.6. If anything, the borderline-significant negative coefficient on *CASH RATIO*, which also appears in Panel C, indicates that cash-rich listed firms in Continental Europe are less inclined to diversify their operations when engaging in M&As. *FIRM SIZE* is never significant – not even borderline. The acquirer market-to-book ratio shows a negative and significant association with *DIVERSIFICATION* in all the panels. Acquirers that are valued more highly by stock market investors thus tend to engage less in industry-diversifying M&As. Possibly, these firms still have access to many valuable growth opportunities in their own industry and, hence, do not aim to invest across industry boundaries. *TOTAL RISK* is significantly positive, but only in Panels A and C. Acquirers with a more volatile business thus choose more often to diversify their operations when buying another company. In contrast, *CONGLOMERATE* is never significant.

Of the industry-level control variables, *IND. GROWTH* is never significant. In contrast, *IND. CONC* proves highly significant in all models ($p \leq 0.01$). So, CE listed firms active in a highly concentrated industry prefer takeover targets active in another industry. Possibly, firms in those industries are pushed outside their own when pursuing growth via M&As (see also Huyghebaert and Luypaert, 2010).

MARKETCAP_GDP, if significant, has a negative coefficient. If anything, acquirers in countries with a more developed stock market thus tend to diversify less. Because stock market development is associated with better investor protection and more stringent disclosure standards, this finding could indicate that firm managers and large shareholders find it more difficult or costly to expropriate minority investors by means of their firm's M&A policy if their country's corporate governance regime is stricter. Nonetheless, we also emphasize that the explanatory power of this variable, which proved highly significant in the univariate analysis, is far smaller in the multivariate analyses. From this outcome, we infer that firm-level attributes – and a firm's ownership structure in particular – are much more influential than this country-level corporate governance indicator to explain the nature of a firm's M&As.

Table 3.6: Explaining the incidence of industry diversification in M&As

Table 3.6 shows the logistic regression results as to the incidence of industry diversification in M&As. Panel A compares family firms to non-family firms, while Panel B compares family firms to lone-founder firms and Panel C compares family firms to non-family non-lone-founder firms. Table 1 presents definitions of all the explanatory variables and their hypothesized effects on *DIVERSIFICATION*. All the control variables are measured at the prior fiscal year-end before M&A announcement and are winsorized at 1%–99%. Coefficients significant at the 10%, 5% and 1% levels are marked with *, ** and ***, respectively. *p*-values are reported in parentheses.

	Panel A: Family versus non-family firms			Panel B: Family versus lone-founder firms			Panel C: Family versus non-family non-lone-founder firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FAM5	-0.2687	-1.0659***		-0.1689	-1.0425**		-0.2743	-1.0723***	
	(0.1061)	(0.0040)		(0.6104)	(0.0196)		(0.1016)	(0.0039)	
FAMBLOCK		2.1123***			2.2072***			2.1174***	
		(0.0072)			(0.0064)			(0.0070)	
FAM5_20			-1.2255***			-1.2378*			-1.2231***
			(0.0018)			(0.0750)			(0.0018)
FAM20_50			-0.5222**			-0.5368			-0.5274**
			(0.0489)			(0.4303)			(0.0488)
FAM50_100			0.0141			0.0659			0.0147
			(0.9575)			(0.9239)			(0.9558)
OTHER5_20			-0.4057***			-0.4360			-0.4071**
			(0.0087)			(0.5471)			(0.0102)
OTHER20_50			-0.2011			-0.2254			-0.1986
			(0.1916)			(0.7507)			(0.2086)
CASH RATIO	-0.9782*	-0.9341	-0.9064	-0.8176	-0.7134	-0.5809	-1.1934**	-1.1454*	-1.1084*
	(0.0878)	(0.1053)	(0.1184)	(0.4645)	(0.5441)	(0.6228)	(0.0481)	(0.0594)	(0.0697)
LEVERAGE	-0.2014	-0.1522	-0.2930	-2.1816*	-1.8149	-1.7930	-0.2468	-0.1965	-0.3353
	(0.6973)	(0.7691)	(0.5669)	(0.0703)	(0.1283)	(0.1471)	(0.6392)	(0.7093)	(0.5191)
FIRM SIZE	0.0332	0.0364	0.0418	-0.0064	0.0077	0.0052	0.0334	0.0369	0.0426
	(0.2752)	(0.2401)	(0.1733)	(0.9423)	(0.9385)	(0.9575)	(0.2899)	(0.2501)	(0.1797)
M/B	-0.0665**	-0.0736**	-0.0770**	-0.1391**	-0.1786***	-0.1861***	-0.0669**	-0.0747**	-0.0778**
	(0.0275)	(0.0172)	(0.0107)	(0.0106)	(0.0046)	(0.0051)	(0.0337)	(0.0212)	(0.0140)
TOTAL RISK	0.2216***	0.2189***	0.2085**	0.1906	0.1937	0.2203	0.2206***	0.2180**	0.2063**
	(0.0075)	(0.0091)	(0.0127)	(0.3198)	(0.3546)	(0.2678)	(0.0093)	(0.0111)	(0.0157)
CONGLOMERATE	-0.0144	-0.0167	-0.0191	0.0739	0.0549	0.0772	-0.0157	-0.0181	-0.0203
	(0.6367)	(0.5867)	(0.5246)	(0.5276)	(0.6839)	(0.5841)	(0.6058)	(0.5574)	(0.4994)
IND. GROWTH	-0.5425	-0.5222	-0.6038	1.1440	1.2228	1.1597	-0.6788	-0.6585	-0.7415
	(0.3397)	(0.3570)	(0.2955)	(0.4318)	(0.3918)	(0.4161)	(0.2334)	(0.2467)	(0.2005)
IND. CONC	2.0202***	1.9976***	2.0039***	3.1052***	3.0268***	2.9761***	1.9298***	1.9045***	1.9166***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
MARKETCAP_GDP	-0.3370*	-0.3079*	-0.2410	-0.1317	0.0092	0.0404	-0.3335*	-0.3014	-0.2321
	(0.0635)	(0.0879)	(0.1827)	(0.7494)	(0.9822)	(0.9205)	(0.0740)	(0.1042)	(0.2125)
Constant	-0.9442**	-0.9917**	-0.8642**	-0.7075	-0.8634	-0.6384	-0.8862**	-0.9408**	-0.8247*
	(0.0217)	(0.0177)	(0.0408)	(0.4990)	(0.4624)	(0.6056)	(0.0418)	(0.0340)	(0.0638)
Observations	2,574	2,574	2,574	535	535	535	2,475	2,475	2,475
Nagelkerke R^2	0.0725	0.0795	0.0856	0.1001	0.1336	0.1397	0.0715	0.0787	0.0849
Maximum VIF	1.29	3.96	1.79	1.31	1.96	8.68	1.28	3.94	1.78

3.4.2 Impact of family ownership on the abnormal returns for acquirer shareholders

Table 3.7 reports the OLS regression results modeling the acquirer *CAR* over the [-1,+1] event window. This table has the same structure as Table 3.6, except that we now also include *DIVERSIFICATION* and its interaction with our various family ownership variables.

Table 3.7, Panel A reveals that acquirers embracing an industry-diversifying M&A strategy realize a significantly lower *CAR* ($p \leq 0.05$ in models 1–3). This finding supports the idea that those conglomerate deals are to the detriment of the firm's minority investors. However, from the parameter estimate (-0.53% in models 1 and 2), we cannot conclude that those deals are perceived to destroy shareholder value on average; they only do not create as much value as the average transaction in the sample, which is 0.97% over the [-1,+1] event window. Next, the interaction term *DIVERSIFICATION* * *FAM5* is significant in model 1 ($p \leq 0.1$); from its coefficient, we infer that the presence of a large family shareholder fully reverses the negative impact of *DIVERSIFICATION* on the acquirer *CAR*. Arguably, and considering that family firms with non-majority family ownership are less likely to pursue conglomerate M&As (as revealed in Table 3.6), the above findings are in line with the earlier-documented non-linear relation between family ownership and firm value/performance in European listed firms (e.g., Kowalewski *et al.*, 2010; Maury, 2006; Poutziouris *et al.*, 2015).

Next, the results of model 2 indicate that the mitigating effect of family ownership for the negative relation between *DIVERSIFICATION* and the acquirer *CAR* is linear in nature. Put otherwise, this negative effect tends to be weaker when the family controls a larger fraction of the firm's voting rights. This relation also arises in model 3, which accounts for any interaction effects by means of *DIVERSIFICATION* * *FAMx_y*. In line with our earlier findings in model 2, the coefficient on *DIVERSIFICATION* * *FAM50_100* has the largest magnitude, although it is not significant at the 10% level ($p = 0.12$). Arguably, we thus find no confirmation for the idea that the conglomerate M&As made by family firms are to the detriment of the firm's minority investors. As regards the support for *Hypothesis 1b*, we consider the above evidence to be only

indirect at best. Indeed, family firms with non-majority family ownership are far less likely to engage in conglomerate M&As, which do not create as much shareholder value on average. As to *Hypothesis 2b*, our results allow us to refute that hypothesis because the sum of the coefficients on *DIVERSIFICATION* and *DIVERSIFICATION * FAM50_100* is not different from zero. Possibly, families with majority ownership keep in mind that excessive minority-investor expropriation could harm the reputation of the family firm and the family name; those reputation effects might therefore introduce a self-imposed constraint on the level of minority-investor expropriation in which large families are willing to engage. Alternatively, the magnitude of the family financial wealth at stake could impose discipline on family firms.

Finally, *FAM5* itself is not significant in model 1. *FAMBLOCK* and the *FAMx_y* dummies are not significant in models 2 or 3. The mere fact that an acquirer is controlled by a large family shareholder thus has no effect on acquirer shareholder value on top of its effect via the industry-diversifying nature of the firm's M&A strategy. This same conclusion arises from examining the role of the ownership stake held by this large family shareholder.

The results as to the effects of *DIVERSIFICATION* and family ownership in Panels B and C of Table 3.7 indicate that the most important split is that between family-controlled firms and non-family non-lone-founder firms. Indeed, because none of our test variables is significant in Panel B, we conclude that family firms are more comparable to lone-founder firms than to non-family non-lone founder firms when seeking to explain the shareholder value creation in M&As. This conclusion is in line with earlier findings by Feito-Ruiz and Menéndez-Requejo (2010), who show that the abnormal returns for acquirer shareholders upon deal announcement do not differ significantly across family firms and lone-founder firms.

Analyzing the role of the control variables, we note that *CASH RATIO* is significantly negative in Panels A and C of Table 3.7. A negative coefficient is consistent with the findings of Harford (1999), who argues that it reflects an agency problem. From the size of the parameter estimates, we infer that stock market investors in Continental Europe perceive this conflict to destroy shareholder value on average. However, our results as to the impact of *CASH RATIO* on *DIVERSIFICATION* in Table 3.6 reveal that

such value destruction does not predominantly come from cash-rich acquirers buying a target firm in another industry. Table 3.6 indeed indicates that *CASH RATIO*, if significant, is *negatively* related to the odds of a conglomerate deal.

Next, *LEVERAGE* is never significant. *FIRM SIZE* has a significant negative impact in all the models, in line with Moeller *et al.* (2004). The latter authors contend that the incentives of managers in smaller listed firms are better aligned with those of shareholders than is the case in large listed firms. Moreover, managers in large listed firms could be more prone to hubris. The acquirer M/B ratio is significantly negative in Panels A and C, which indicates that stock market investors are concerned about managers over-extrapolating past performance when subsequently engaging in M&As (see also Rau and Vermaelen, 1998). *TOTAL RISK* also has a negative sign but is only borderline significant in Panel C. All the other control variables, i.e., *CONGLOMERATE*, *IND. GROWTH*, *IND. CONC*, and *MARKETCAP_GDP*, have no significant effect on the abnormal returns for acquirer shareholders at deal announcement. The models' maximum VIF, at the bottom of Table 3.7, never indicate a multicollinearity problem.

Table 3.7: Explaining the acquirer shareholder abnormal returns at M&A announcement

Table 3.7 shows the OLS regression results as to the acquirer *CAR* over the [-1,+1] window. Panel A compares family firms to non-family firms, while Panel B compares family firms to lone-founder firms and Panel C compares family firms to non-family non-lone-founder firms. Table 1 presents definitions of all the explanatory variables and their hypothesized effects on *CAR*. All the control variables are measured at fiscal year-end before M&A announcement and are winsorized at 1%–99%. Coefficients significant at the 10%, 5% and 1% levels are marked with *, ** and ***, respectively. *p*-values are reported in parentheses.

	Panel A: Family versus non-family firms			Panel B: Family versus lone-founder firms			Panel C: Family versus non-family non-lone-founder firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DIVERSIFICATION	-0.0053**	-0.0053**	-0.0051**	0.0003	-0.0010	0.0006	-0.0056**	-0.0057***	-0.0054**
	(0.0219)	(0.0175)	(0.0288)	(0.9900)	(0.9357)	(0.9776)	(0.0109)	(0.0081)	(0.0141)
DIVERSIFICATION * FAM5	0.0086*			0.0036			0.0089*		
	(0.0961)			(0.8595)			(0.0867)		
FAM5	-0.0020			-0.0134			-0.0010		
	(0.4895)			(0.2859)			(0.7410)		
DIVERSIFICATION * FAMBLOCK		0.0225*			0.0169			0.0229*	
		(0.0610)			(0.5403)			(0.0564)	
FAMBLOCK		-0.0076			-0.0238			-0.0052	
		(0.3024)			(0.1418)			(0.4690)	
DIVERSIFICATION * FAM5_20			-0.0026			-0.0057			-0.0033
			(0.7521)			(0.8044)			(0.6913)
FAM5_20			0.0061			-0.0029			0.0068
			(0.2453)			(0.8653)			(0.1965)
DIVERSIFICATION * FAM20_50			0.0095			0.0035			0.0100
			(0.1760)			(0.8687)			(0.1493)
FAM20_50			-0.0019			-0.0090			-0.0014
			(0.5985)			(0.5956)			(0.7034)
DIVERSIFICATION * FAM50_100			0.0133			0.0087			0.0137
			(0.1205)			(0.6868)			(0.1115)
FAM50_100			-0.0013			-0.0110			-0.0006
			(0.8140)			(0.5206)			(0.9120)
OTHER5_20			0.0042			0.0118			0.0034
			(0.1196)			(0.5028)			(0.1944)
OTHER20_50			0.0027			0.0025			0.0022
			(0.3298)			(0.9204)			(0.3753)
CASH RATIO	-0.0193*	-0.0194*	-0.0197*	0.0108	0.0110	0.0098	-0.0248**	-0.0249**	-0.0253**
	(0.0598)	(0.0586)	(0.0545)	(0.6515)	(0.6506)	(0.6786)	(0.0171)	(0.0168)	(0.0148)
LEVERAGE	0.0099	0.0097	0.0112	0.0006	-0.0004	0.0000	0.0113	0.0111	0.0123
	(0.3361)	(0.3444)	(0.2819)	(0.9783)	(0.9844)	(0.9999)	(0.2749)	(0.2808)	(0.2398)
FIRM SIZE	-0.0030***	-0.0030***	-0.0031***	-0.0037**	-0.0041**	-0.0038**	-0.0027***	-0.0027***	-0.0027***
	(0.0000)	(0.0000)	(0.0000)	(0.0234)	(0.0204)	(0.0143)	(0.0000)	(0.0000)	(0.0000)
M/B	-0.0013**	-0.0012**	-0.0012**	-0.0005	-0.0002	-0.0003	-0.0013**	-0.0012**	-0.0012**
	(0.0159)	(0.0171)	(0.0193)	(0.6899)	(0.8586)	(0.7921)	(0.0151)	(0.0156)	(0.0174)
TOTAL RISK	-0.0027	-0.0027	-0.0026	-0.0004	-0.0006	-0.0009	-0.0031*	-0.0031*	-0.0030
	(0.1611)	(0.1622)	(0.1862)	(0.9298)	(0.9013)	(0.8452)	(0.0927)	(0.0932)	(0.1092)
CONGLOMERATE	-0.0005	0.0099	-0.0004	0.0014	-0.0220	0.0014	-0.0004	0.0131	-0.0004
	(0.2839)	(0.3379)	(0.3260)	(0.4491)	(0.4854)	(0.4616)	(0.3755)	(0.1922)	(0.4111)
IND. GROWTH	0.0100	-0.0025	0.0107	-0.0228	-0.0016	-0.0235	0.0131	-0.0026	0.0137
	(0.3337)	(0.5651)	(0.3053)	(0.4634)	(0.8971)	(0.4322)	(0.1896)	(0.5325)	(0.1755)
IND. CONC	-0.0026	-0.0005	-0.0025	-0.0034	0.0016	-0.0014	-0.0026	-0.0004	-0.0027
	(0.5497)	(0.2691)	(0.5550)	(0.7879)	(0.3693)	(0.9104)	(0.5259)	(0.3480)	(0.5233)
MARKETCAP_GDP	0.0012	0.0011	0.0004	0.0041	0.0011	0.0033	0.0020	0.0020	0.0013
	(0.7150)	(0.7288)	(0.9098)	(0.5827)	(0.8864)	(0.6607)	(0.5066)	(0.5138)	(0.6629)
Constant	0.0567***	0.0568***	0.0549***	0.0667*	0.0680*	0.0621*	0.0507***	0.0508***	0.0492***
	(0.0000)	(0.0000)	(0.0000)	(0.0664)	(0.0512)	(0.0555)	(0.0000)	(0.0000)	(0.0000)
Observations	2,565	2,565	2,565	535	535	535	2,466	2,466	2,466
Adjusted R^2	0.0267	0.0270	0.0284	0.0333	0.0330	0.0364	0.0286	0.0290	0.0305
Maximum VIF	1.54	1.68	1.83	5.45	3.59	9.84	1.55	1.69	1.84

3.4.3 Alternative model specifications

To assess the robustness of our findings, we perform a number of additional tests. First, we re-run all the models with the dummy *DIVERSIFICATION* defined at the four-digit US SIC level. The results of these extra tests are generally consistent with those shown in Table 6. Robustness also emerges when *DIVERSIFICATION* is defined in a more categorical way. To that end, we set it equal to one when the acquirer and the target firm share no two-digit US SIC code and equal to 0.75 (0.5) when none of their three-(four-)digit US SIC codes overlap. Alternatively, we re-examine the results as to the acquirer *CAR* when using the other event windows to compute *CAR*, particularly the [-5,+5] and [-35,+5] windows. For those longer event windows, the parameter estimates on *DIVERSIFICATION* and its interaction with family ownership point in the same direction as in Table 7 but do not always meet the 10% threshold for statistical significance. Running the models with other thresholds to distinguish between limited and dominant family ownership does not generate any new insights. In fact, the 20% and 50% cutoffs prove most informative because they result in models with the highest Nagelkerke R-square. Next, adding extra control variables in the *CAR* regressions, such as relative deal size, a dummy that equals one for cross-border M&As, and a dummy that equals one for deals that are fully paid in acquirer shares, does not add novel insights. Moreover, those variables are never significant at the 10% level (see also Feito-Ruiz and Menéndez-Requejo, 2009). Because the data needed to compute those extra control variables are not always available in Zephyr, we decided not to include them in our main regression models of Table 7. Particularly the deal-payment data are missing to a large extent (for 68.4% of sample deals).

Next, we replace *MARKETCAP_GDP* with a number of other country-level corporate governance indicators. To that end, we make use of the *RULE OF LAW* variable from the Worldwide Governance Indicators (Kaufmann *et al.*, 2010); it captures the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, property rights, police, and courts, as well as the likelihood of crime and violence. We also gather information on the *GOVERNMENT EFFECTIVENESS* index (Kaufmann *et al.*, 2010). Lastly, we consider the La Porta *et al.* (1998) rule-of-law variable. Including those alternative country-level governance

variables does not alter our conclusions as to the variables of interest. However, those country-level governance indicators now also become significantly positively related to the acquirer *CAR* in some of the models in Table 7. We next run a robustness check after splitting the sample into M&As initiated by acquirers operating under the French, Scandinavian, and German civil-law legal system. We infer that the relations between family ownership and *DIVERSIFICATION* are not unique to one of these subsamples. Finally, we investigate the robustness of our findings within the subsample of family-controlled acquirers (*FAM5* = 1). We again find that the fraction of voting rights controlled by a firm's family bears a positive and significant influence on that firm's propensity to initiate an industry-diversifying M&A. Next, and in line with the results in Panel B of Table 7, we infer that *DIVERSIFICATION* is never significantly related to the acquirer shareholder value effects within this subsample. We therefore conclude once more that especially the comparison of family firms and non-family non-lone-founder firms matters in explaining the acquirer *CAR*.

3.5 Discussion and conclusions

The starting point of our study was the non-linear relation between family ownership and the performance/value of listed companies in Europe (e.g., Kowalewski *et al.*, 2010; Maury, 2006; Poutziouris *et al.*, 2015). To demystify it, we explored the role of one specific channel, that is, the influence of family ownership on the industry-diversifying nature of a firm's M&A strategy. We examined this topic for a large sample of 3,485 M&As made by listed acquirers in Continental Europe. The cross-sectional variation in family ownership across the listed firms in our sample proved extensive, which allowed us to implement the type of analyses that arose from our integrated P–A and P–P theoretical frameworks.

First, we find that family ownership has a negative effect on the odds that a family-controlled firm will initiate an industry-diversifying M&A, provided that the family stake is 50% or less. Our results are thus in line with the existence of a positive monitoring and/or incentive-alignment effect at non-majority levels of family ownership. For stakes above 50%, families no longer induce their firm to pursue an

industry-focused M&A strategy. Rather, their stake now proves large enough to push the family business to M&As that allow safeguarding the family's financial and socioemotional wealth. We therefore conclude that an expropriation effect ensues when the family becomes too dominant, thereby neutralizing the earlier-detected positive family effect. However, family firms with majority family ownership are not more likely to engage in conglomerate M&As than lone-founder and other types of non-family firms.

Next, our analyses of acquirer shareholder value effects at deal announcement engender extra insights. First, we show that industry-diversifying M&As produce lower abnormal returns on average, which indicates that they are detrimental to the firm's minority investors. However, family control does not seem to reinforce this negative effect of industry diversification on the acquirer *CAR*. On the contrary, the conglomerate M&As pursued by firms with majority family ownership produce an abnormal return that is not significantly different from the sample average. Possibly, families keep in mind that excessive minority-investor expropriation could harm the reputation of the family firm and the family name. Alternatively, the magnitude of the family financial wealth at stake could impose discipline on the family firm. In aggregate, our findings are in line with the earlier-detected non-linear relation between family ownership and firm performance/value in European listed firms. They have important implications for stock market investors considering buying a stake in a family-controlled CE listed firm.

The results in our article also clearly require reconsidering earlier theoretical arguments that family firms may be reluctant to diversify their business because doing so indirectly poses a hazard to the family's socioemotional wealth. Rather, and capitalizing on the M&A literature, we argue that it is *growth by itself* that may induce firms to raise extra financing and delegate responsibilities. Future research should therefore also better disentangle the influence of family ownership on company growth versus company risk.

Next, our findings indicate that family control can help curtail the P–A conflict of interest with management at low, i.e., non-majority levels of family ownership. In contrast, when the family controls a majority of voting rights, family businesses no longer focus uniquely on shareholder value maximization but rather also adhere to

other, familial goals, thereby provoking a P–P conflict with the firm's minority investors. Research on family firms to date recognizes family businesses' multiple goals; yet another theoretical contribution that arises from our results is that a family's various objectives appear to receive different priorities depending upon the family's ownership stake. Finally, our study shows that different types of large shareholders ('principals') behave differently and therefore also endorses the recent direction in empirical family business research to separate true family firms from lone-founder firms (e.g., Miller *et al.*, 2007; Cannella *et al.*, 2015).

Future empirical research could examine the influence of family ownership on other channels of shareholder value creation than a firm's M&A strategy to obtain a more complete understanding of why and when family firms are valued more highly in the stock market. Other researchers could also integrate the role of large countervailing shareholders, like institutional investors, and how they interact with the controlling family shareholder. Additionally, future empirical research might wish to account for information on top of the family firm's ownership structure, for example whether family members take up key positions in the management or board and how those positions potentially strengthen or weaken some of the relations that we have already documented. In a similar vein, other researchers could integrate the effects of family relationships, thereby exploring the role of family cohesion and conflict. Next, future research could delve deeper into the effects of firm age and the family generation. Those data were not readily available for our study, and we consider those lacking data to be the primary limitation of our research. Another major limitation arises from the fact that we only had access to US SIC codes to identify industry-diversifying M&As. Although well-accepted in the M&A literature, such a definition fails to capture that cross-industry transactions can still involve considerable operating synergies. Likewise, while acquirer shareholder abnormal returns are widely used to measure M&A value creation, this metric fails to account for the acquisition premium paid for target control. To date, it is unclear whether family firms are more or less conservative when fixing takeover prices. Finally, as the firms in our sample were required to be publicly listed, we are not sure to what extent the findings in our article would also apply to privately-held family firms.

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